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# THE ARCHITECTS' AND BUILDERS' JOURNAL.

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## NATIONAL PAPER ECONOMY.

*Owing to the very necessary Government restrictions on paper supplies, all elements of waste must be rigorously excluded. Our readers, we are sure, will gladly assist in promoting this object, which is an item in national economy. They can co-operate with us effectually in either of two ways—(1) By placing a direct subscription for this Journal, or (2) by placing with a newsagent an order for its regular delivery.*

*The Government Paper Controller has now forbidden the return of unsold copies of newspapers and periodicals to the publishers. Newsagents are therefore now keenly interested in the elimination of the casual customer, and are morally compelled to obtain only those papers that have been previously ordered. This fresh development strongly emphasises the foregoing advice to place a direct subscription or to give a newsagent a standing order for regular delivery.*

THERE was nothing perfunctory in the pretty speeches made at the presentation of the Royal Gold Medal to Mr. Ernest Newton. They all came from the heart; for it is to the heart that Mr. Newton, whether by his charming personality or in his work, makes his most powerful appeal. All the speakers and letter-writers on the occasion either expressed outright or conveyed by their tone the affection in which Mr. Newton is held. Sir Aston Webb was one of those who said it straight out: "Mr. Newton excited the admiration, respect, and especially the affection of his friends, who found the same qualities in his work that they found in the man—the houses he had planned were lovable houses—houses one would like to live in." It is so: and it is for this reason that, as Mr. Hare said in presenting the medal, you can always tell a Newton design on sight, for in it the peculiar charm of the English home finds supreme expression; and by none is his work more sincerely admired than by architects, who have sometimes followed it so closely as to make too large a sacrifice of their own individuality. Their excuse must be that much work is necessarily derivative, and that they could follow no better master of modern domestic work. That they need not have trodden on his heels is perhaps an invidious detail. Mr. Newton has not thus dogged the footsteps of Norman Shaw, under whose potently formative influence he came directly as pupil, assistant, and successor on unfinished work; but then Mr. Newton has individuality, temperament, genius. If these gifts had not been so conspicuously manifest in his designs, he would not have been a Royal Gold Medallist, notwithstanding the magnificent services he has rendered as President of the Institute during the most trying period in its history, and the no less valuable aid he has rendered to the Government as honorary adviser, in which capacity he continues to perform a most delicate task with no less tact than fidelity.

Small builders are urged, in our contemporary "Le Bâtiment," to pay more attention to plant and equipment. In France, even more than in

Britain, it would seem, the employment of power machinery and appliances is almost exclusively confined to the larger firms, the smaller men using primitive apparatus that shows but little advance on what was known to their great-grandfathers. Many of these small builders, our contemporary believes, are unaware that most items in the mechanical equipment that give the great firms such enormous advantages in speed and economy are obtainable in sizes suitable to less extensive operations—they forget, as our contemporary says, "that besides the thirty-horse power automobile there is the modest motorcycle, which equally annihilates space." It is now more than ever necessary, the writer says, to popularise power by encouraging small firms to acquire every kind of machine that promotes economy. He instances particularly the improved apparatus for mixing cement and mortar, gear hoisting and carrying material, machines for making bricks and blocks, pneumatic sprays to supersede hand-painting, and so forth. He makes no mention of the numerous small machines for cutting, shaping, drilling, and mortising, which effect so much economy of time and labour in the joiner's shop; and, indeed, his chief object seems to be to recommend the adoption of small electric motors as the source of power where current is not available. There are also gas-engines; but the choice of either form of motive power is an insignificant detail in comparison with the broad fact that, when the full tide of reconstruction sets in, hand-labour would be utterly inadequate to cope with it, even if man-power were in normal supply. Machinery, therefore, will be applied to every industrial operation to which it can be adapted, and its makers should in future be confronted with an irresistible demand for equipment and plant for which the small man can find money and room. Hitherto the British manufacturer has been too much in the habit of disdaining small orders, because they were merely casual. When they become regular, he will find profit in them, and the small builder will not be dependent on Germany for the small tools and other appliances that the British manufacturer was formerly too proud to supply.

A seasonable word on machine-made art may be added. It may possibly give offence to the dwindling band who will tolerate no compromise on the question; but it will appeal to those who, like Mr. C. R. Ashbee, recognise the impossibility of excluding machinery from the domain of art, accept the situation with a sort of cheery stoicism, and resolve to turn it to the best possible account. This policy may be rather reminiscent of the fable of the dog and his master's dinner, but it seems, on the whole, to be the most sensible course. Machine-made art cannot be frowned out of existence, and the only real question about it is whether artists shall make the best of it, or whether they are justified in consigning it to Philistia. This is really a very old question. It arose with the invention of processes of mechanical reproduction. Fifteenth-century monks of the scriptoria denounced printing as an invention of the devil; and while those who hold that the most beautiful typography is poor in comparison with handwork cannot be confuted, it is nevertheless open to doubt whether the criticism is relevant to any direct practical issue. Wall-paper was at first scorned as sham tapestry, but,



eventually so artistically minded a man as William Morris took delight in designing it. Engraving on metal or wood, at first denounced as mechanical, was eventually classed among the fine arts; and so on.

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And now everybody is coming round to the view that any means of democratising art by multiplying copies of good work should be welcomed rather than repudiated. Always, of course, the copy must lose something of the spirit of the original; but surely that is a minor consideration. Multiplication of copies will go on, and one's chief concern is the design or the choice of originals. If artists austere refrain from assisting in that choice, they do the public a disservice, and risk a presumption of priggishness. Architects are often in doubt whether to specify machine-made decoration—woodwork, for instance—or to adopt the alternative of a plain surface where cost prohibits hand-made art. Conscience, in such cases, suggests that machine-made art is a sham—is something pretending to be other than what it is. This, we think, is to push principle too far, and to raise an unwarrantable assumption of fraud. A piece of good decoration is entirely innocent of false pretences, nor are we wholly justified in prying into its pedigree. If it is beautiful, that is its justification. Most of its beholders will be content to enjoy it, without for a moment troubling about how it was produced—whether it was cut to pattern in a cunningly devised machine, or whether it was carved by hand. They are not fastidious artists, but observers after the order of Peter Bell; and Peter, one suspects, got more enjoyment out of the primrose than the egotistic poet lays to his credit.

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A protest against "ultra-modern art" in officially favoured war pictures has been addressed to the Press by Mr. Max Judge. While we are disposed to agree with him that in certain instances Futurist methods have been a little too prominent in the series, we cannot see in that fact sufficient ground for Mr. Judge's suggestion that "the war is being made the occasion for ultra-modern-art propaganda." We would even hazard the opinion that it was only fair to give "ultra-modern art" a chance to show how it would handle so stupendous a subject, and that the results are decidedly interesting, whether or not we happen to admire them. We are more concerned to express our hearty concurrence with Mr. Judge's observation that "there is a whole field to be covered which calls for architectural knowledge and insight, combined with an artist's genius," and we believe that he has indicated, not obscurely, the right man to do the work. "We have," he says, "one artist who is supreme in this sphere, as the Architectural Room at the Royal Academy has for the past ten years or so borne eloquent testimony to." It would be particularly gratifying to hear that the services of this fine artist had been secured for so important a work as that which still remains to be done in this field; for it is work for which his rare combination of gifts—his imaginative insight into the soul of a building or a scene, his technical knowledge and accomplishment, his consummate mastery of media—mark him out as the one man capable of producing a series of war pictures that would stand as a permanent and truly artistic memorial of the vicissitudes of great buildings in the war zone.

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Land-law reform cannot be very far off when we find lawyers listening with exemplary patience to proposals for it. This happened last week, when Mr. Dixon H. Davies, a member of the Committee on the

Acquisition of Land for Public Purposes, had a most attentive hearing at a meeting of the Liverpool Law Society, at which he delivered an address on "The Reform of Private Bill Legislation." Mr. Davies said that the Leslie Scott Committee had come to the conclusion that the procedure at present involved whenever land had to be acquired for a public purpose was not only confusing by reason of its diversity, but also appallingly dilatory, expensive, and unsatisfactory. There was abundant vindication for the opinion expressed by the Committee that "there should be established one general system for the obtaining of compulsory powers for the acquisition of land, applicable to all bodies or persons who can prove that it is necessary or desirable in the public interest that such powers should be conferred." After the war there will be an enormous mass of applications, and if these are to be dealt with by nothing more expeditious than the existing cumbersome machinery, the bulk of them may be expected to get through at the Greek Kalends. The establishment of an *ad hoc* authority—a tribunal easy of approach, speedy and inexpensive in its procedure, and comprehensive in its jurisdiction—to which applications could be made in any case where it was alleged that public interest required the over-riding of existing appropriations of land, is recommended by the Committee. This tribunal, it is suggested, might consist of a joint committee of the two Houses of Parliament, strengthened by the addition of extra-Parliamentary members, remaining in continuous session, holding its inquiries locally, conducting them in public, and giving immediate and direct decisions. After discussion, the meeting of the Liverpool Law Society at which Mr. Davies expounded these proposals passed a resolution approving unanimously the recommendations of the Leslie Scott Committee, and calling upon Parliament to take prompt steps to give them legislative effect. It is surely not possible that so urgently necessary a reform can be further delayed; and there must immediately follow it certain other much-needed measures of land-reform if reconstruction is to proceed promptly, smoothly, and rapidly. In urging the necessity for land-law reform, builders, who are perhaps the persons principally interested in securing it, have hitherto discounted their case by giving it too much the complexion of party politics—a mistake to be scrupulously avoided.

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Of the versatility and adaptability of architects the war has afforded many most convincing proofs. It will be remembered that Mr. Ernest Newton, when president of the Institute, repeatedly claimed these qualities for them. A glorious though very sad confirmation has been brought home to him. In his office, when the war broke out, was Mr. A. W. Robertson, who had been a student in the Architectural Association Schools. As Major Robertson, M.C., he has died of wounds in France, and his colonel has written of him: "I considered him, without doubt, to be one of the best battery commanders I have ever had under me, and they have been many." Major Robertson behaved with conspicuous gallantry under the most crucial conditions. "His example was wonderful, and the way he held his battery together was magnificent." "He is," his general wrote, "a great loss to all, and still more so to the battery, which he commanded with great skill, and by the men, of whom he was much beloved. I have lost a friend that I have made when at war, and also an officer upon whom I could rely at any time and in any emergency." Truly a noble record. Major Robertson and his brother, Captain William Henderson Robertson, received the Military Cross simultaneously, and the captain has been recently awarded a bar to his Cross.



## HERE AND THERE.

CONTINUING our sketchy survey of the history of Paris, we find that in the reign of Francis the First (1515—1547) the population had increased to 200,000, and there was so much building and rebuilding that the city was almost entirely renovated, sixty new streets having been added to it. To check the rage for building, Henry II., in 1548, issued an edict prohibiting the erection of any more houses in the suburbs, on pain of confiscation of the land and buildings. In 1566, Catherine de Medicis began to build the Tuileries, and in the same year a new wall was begun, to accommodate the city's expanding girth. It was at this period—in the reign of Charles IX.—that the immense Arsenal was completed.

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When, in 1594, Henry IV. ascended the throne, many of the public buildings, and of the houses of the nobility, lay in ruins. They had suffered mainly from the civil strife that had long distracted France, and had well-nigh laid waste its capital. With Henri Quatre came peace and reconstruction. On the site of the ruined college of St. Denis and the garden of the convent of the Augustins the Rue Dauphine was formed, and two small islands to the west of the Ile du Palais were united to it and covered with streets. There were sixteen gates, and outside each of them a suburb grew. It is a nice question whether the position of the gate caused the growth of the suburb, or whether the suburb came first and determined the situation of the gate. Probably there was reciprocity, as in the celebrated case of the suburban garden and pond—"sometimes the pond was at the bottom of the garden, and sometimes the garden was at the bottom of the pond."

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In this reign, Paris had six bridges and 413 streets. Several quays were built on the north side of the river, and quarries, clayfields, iron-mines, and woods within easy reach of the city were developed to supply the materials of construction. But as yet the city was only just emerging from mediævalism. "Of what are in modern times called *Places*, it as yet contained only the Place Royale and the Place Dauphine. No extensive piece of ground to which the inhabitants in general might repair for recreation seems to have existed, unless we suppose that a large meadow called the Pré aux Clercs, which lay on the south side of the river opposite the present garden of the Tuileries, may have been used for that purpose. . . . Finally, both within and without the walls, the monuments of the violence and terrors of former times were still everywhere conspicuous, in the shape of embattled towers frowning over the dwellings of citizens, private houses built in the style of military strongholds, abbeys and other religious edifices encircled by defying fortifications, and not unfrequently whole districts of more-unprotected abodes thrown down and lying in ruins." But the old barbarism was also in ruins, and the spirit of modernity was already hovering over them. Henry IV. was the last monarch to occupy the Louvre as a regular residence, and he carried on the building of the palace. He built the Pont Neuf.

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Louis XIII., who succeeded Henry IV., seems to have encouraged the foundation of religious establishments, of which sixty-nine made the builders busy during his reign, and the expansion of the city in this and in other ways necessitated the enlargement of its borders. In 1634 the walls towards the west and north-west were thrust further forth,

and a new series of fortifications followed very nearly the line of the modern boulevards, stretching from Porte St. Denis to the western extremity of the Boulevard de la Madeleine, and thence turning towards the river, and ending westward of the garden of the Tuileries. This reign was chiefly remarkable for the erection of the Luxembourg by Marie de Medicis, and of the Palais Royal by Cardinal Richelieu; and for the completion of all but the eastern front of the buildings forming the court of the Louvre. Other salient marks of the period are—The Val de Grace; the rebuilding of the Sorbonne; the formation of the Place Royal (afterwards Place des Vosges); the building of the churches of St. Paul and St. Louis; completion of St. Gervais, St. Etienne-du-Mont, and St. Eustache; addition of the Salle des Pas-Perdus to the Palais de Justice; establishment of the royal printing press; formation of the Jardin des Plantes; institution of the French Academy. As Louis XIV., ascending the throne in 1643 at the age of five, reigned for seventy-two years, he saw Paris transformed from the chrysalis to the butterfly, and did much to assist the process. He gilded its wings withal. In his time arose the Hôtel des Invalides (Bruant and Mansart, architects), and the Boulevards were begun (1670); the Louvre and the Tuileries were "revised, corrected, and considerably augmented," the Places du Carrousel, Vendôme, and des Victoires were formed, and the Champs Elysées were laid out. Stone bridges across the Seine were substituted for wooden ones. By 1714 the number of streets had risen to 989, there were more than twenty thousand houses, and the population of Paris reached half a million. With Louis XIV.'s predatory wars I have nothing to do, and for his revocation of the Edict of Nantes the best that can be said on this side of the Channel is that it immensely advanced our arts and crafts and commerce by sending us the Huguenots.

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In the reign of Louis XV. ("the Well-beloved"—1715 to 1774) the Ecole Militaire and the church of Ste. Geneviève (the Pantheon—Soufflot, architect) were built. Building towards the west linked up the village of Roule, which then became a faubourg of Paris, and various other suburbs sprang up along the northern boulevards. Louis XVI. saw further extensions of the suburbs, and a new wall was begun in 1784, but not entirely finished until 1817—the Boulevard Intérieure. In this reign the Palais Royal and the Collège de France were rebuilt, and also the Place now called de la Concorde, the Ecole Militaire, the church of St. Roch, the Elysée and, in part, the Palais Bourbon (Antoine, architect). It remained, however, for Napoleon III. to make Paris the admiration and envy of the civilised world. In his reign were built the Grand Opéra (Garnier, architect); the new Hôtel Dieu; the galleries completing the Louvre and connecting it with the Tuileries; "the extension of the Palais de Justice, with its new front on the old Place Dauphine; the tribunal of commerce; the central markets; several of the finest railway stations; the viaduct at Auteuil; the churches of La Trinité, St. Augustin, St. Ambroise, St. François Xavier, Belleville, Ménilmontant"; the enlargement of the national library was begun; fine new streets were laid out, great buildings erected; the Palace of Industry was constructed as part of the first International Exhibition (1855). A German publicist has just said that "If every stone in Paris were destroyed, there would be no loss to architecture." What does a German know about architecture? DIOGENES.



## SOME FAMOUS ENGLISH INTERIORS.\*

BY ALBERT E. BULLOCK, A.R.I.B.A.

*This paper having been expressly prepared for reading to the Royal Photographic Society, the author has naturally adopted a more popular method of treatment than that in which he would have presented the subject to an audience of architects. Nevertheless, the paper abounds in architectural interest, and recapitulates much that architects will be glad to find so pleasantly recalled.*

THE decorations at Fontainebleau, under Rossi and Primaticcio, and at St. Germain and the Louvre, during the reign of Francis I., illustrate the commencement of French Renaissance, which, by the time of the Regency, developed to a national style of distinct sequence, having a far-reaching influence upon the art of other nations.

It was natural that the friendly relations which existed between France and England during the reigns of Henry VIII. and Elizabeth should lead, through ambassadorial intercourse, to an exchange of works of art; nor could the progress of events at Fontainebleau escape the notice of those who travelled between the two countries.

Definite changes in the canons of artistic expression of a nation are frequently preceded by some literary activity, based upon international intercourse, and the transition from mediæval practices in England to the adoption of the ideas of the Continental upheaval in art are the direct outcome of change in the religious thought of the people, culminating in the great Reformation, when King Hal, with lavish hand, displayed his generosity by giving away monasteries wholesale to Court favourites without compensation to the evicted tenants, but very much enriching himself thereby. Such were the drastic measures of his day, to be reiterated during the Civil Wars, when Cromwell's soldiers trampled upon sacred things and put to naught many of the treasures acquired during the reign of Charles I.

*Continental Influences.*

Henry VIII. and Wolsey invited artists and craftsmen to the English Court from Flanders, France, and Italy. New palaces were to be built, and old ones improved with decorations which should exceed the grandeur to be seen across the Channel. The Palace of Nonsuch suggests the prevailing idea, and has been described by Pepys and Evelyn; but the most notable building of the age was Hampton Court Palace, which, built by Cardinal Wolsey on the site of the Manor House of the Knights Hospitallers, was presented by the Cardinal to the King in 1526.

The historical sequence of events at this time includes the sumptuous display at the Field of the Cloth of Gold in 1520, when Henry VIII. and Wolsey visited Francis I. When the Reformation, begun in 1529, and the work at Fontainebleau was beginning (in 1530), the painter Hans Holbein was actively engaged in England. His ceiling at the Chapel Royal, St. James's Palace, dates 1540, some seven years prior to his decease. In 1545 Lucci Penni left Fontainebleau to work at Hampton Court Palace, where great activity must have prevailed, and many other Continental artists doubtless migrated later. Reports of the grandeur of the work in progress in France, stimulating the Royal pride and envy, resulted in a greater impetus to the work of the Royal Palaces, and in the larger country mansions.

That versatile genius Hans Holbein painted many portraits apart from the ceiling of the Chapel Royal, also erecting triumphal arches for processions, including the famous arch formerly existing in Whitehall; but his forte was undoubtedly the designing of

jewellery. This ceiling at the Chapel Royal, like that of Wolsey's Closet, is executed in small panels of papier maché, held up by means of wood mouldings and painted in colours, but the latter example has a more Italian note in the character of its design, and suggests the influence of such work as can be seen in the model of the room of Isabelle d'Este, in the Victoria and Albert Museum, taken from the original in the Castello Vecchio at Mantua.

*Tudor Mansions.*

During the reign of Queen Elizabeth many large timber-framed buildings were erected, such as Moreton Hall, Cheshire. Some had external plaster modelling, as at Sparrow's House, Ipswich, and towards the close of the century building activity increased very much. Additions were made to old castles, of which the Keep or Peel remained, as at Sizergh Castle, Westmorland, and Levens Hall. The former contains a room of exceptional interest, erected apparently about 1575, with inlaid panelling in poplar and bog oak, and a pendant plaster ceiling exhibiting the full principles of the Renaissance ideal. An exhaustive account of this room by Mr. Cecil Smith is given in the catalogue published by the authorities of the Victoria and Albert Museum, descriptive of their reproduction of this room.

Haddon Hall, Derbyshire, and Hardwicke Hall, are other instances of the work of this period. Fascinating stories have been woven around these two famous mansions, the former of which is owned by the Duke of Rutland, and the latter by the Duke of Devonshire. The Audience Chamber at Hardwicke has a very deep plaster frieze containing figures of men and animals in a pastoral background modelled much larger than life.

Layer Marney Towers, in Essex, is a large brick building of the transitional period, with ornament of rather rococo Italian nature. To many of the older houses, such as Theobalds, Burghley, Holdenby, and Kirby Hall, in Northamptonshire (built in 1572), additions were made during the following reign and that of Charles I.

Montacute in Somerset, Aston Hall near Birmingham in Warwickshire, and Knole in Kent, still retain the long gallery, which was panelled in the small Jacobean type of panelling from floor to ceiling, the latter being sometimes of barrel formation, as exists at Chastleton Manor House, Oxfordshire. These galleries varied from 80 to 170 ft. in length, were lofty, and were lighted by high bay windows at intervals.

The entrance-hall usually had a carved screen on one side to form a passage through to other apartments. Within, the lofty hall, often stone-built, would have its walls hung with tapestries, or have trophies, hunting implements, and weapons of war hung round the walls or over the great open fireplace, where an ox could be cooked at Yuletide.

An oriel, or large bay window, would contain the daïs, where the lord of the manor would sit with his family, while the servants and vassals dined in the body of the hall, and sometimes slept there.

During this period the Tudor linenfold carved panelling was occasionally retained until carving came into general use. The ceilings of Tudor days were of simple rib formation of geometrical design examples of which are extant at the Priory, Exeter. They were succeeded by the ceilings already described.

\* Extracts from a paper read before the Royal Photographic Society on June 4.



Many of the larger mansions contain a succession of different periods of panelling, from which the gradual change of type may be noted.

Holland House, Kensington, the residence of the Countess of Ilchester, contains a gilt room, known to have been painted by Francesco Kleyn. It was erected about the same time as the Palace of Bromley-by-Bow—in 1606—for Sir Walter Cope, probably from the design of John Thorpe. Kleyn, or Clein, was afterwards engaged by James I. to manage the Mortlake tapestry works under the auspices of Sir Francis Crane, where many of Raphael's cartoons were reproduced. He also executed interior decorations for the nobility at Wimbledon House, Somerset House, Stone Park, Bolsover Castle, and other places.

Hatfield House, Hertfordshire, and Canonbury Towers, contain instances of late Jacobean work, and the former, with Cromwell House, Highgate, are interesting as regards the elaborate type of staircase, with carved figures to the newel posts, which prevailed during the first half of the century. There are few instances of enriched mouldings to the panelling of the Elizabethan and early Jacobean periods; the craftsmen relied upon the carving of panelling, as at Exeter, where a room with fine Flemish carved panels and pilasters formerly existed, and is now preserved in the Woodwork Section of the Victoria and Albert Museum. Ornament was freely carved on chimneypieces, and pilasters and figures were treated with arabesque designs, as is exemplified in a room that was formerly part of the Palace of Bromley-by-Bow.

Instances of painted work exist at Eastbury Manor House, Barking, and the particularly well-preserved library adjoining the church at Langley, Bucks, known as the Kidderminster Library, which is under the jurisdiction of Sir Robert Harvey, the lord of the manor. This room is panelled in the early Jacobean manner. The stiles are painted chocolate, the mouldings white, and the panels in colours or a monochrome, with figures of saints, etc., surrounded with the typical strapwork designs adopted from the work of De Vries, of Antwerp, who published books of design of very florid nature in the latter years of the sixteenth century. The row of panels next the ceiling depict local scenes, views of buildings, and pastoral subjects, while the chimneypiece exhibits a large oval with coat-of-arms of the Harvey family, having in the four angles figures of the Virtues. The ceiling is painted and panelled similarly to the walls, having at intervals the addition of a simple panel painted with a large eye, illustrative of the Biblical quotation: "Thou God seest me." The cupboard doors are made flush with the wall panelling, and within are many volumes of hand-written manuscripts.

#### *The Early Architects.*

The architects, or "surveyors," as they were then termed, who are known to have practised during this period, are very few. John Thorpe and his son, with Robert and Huntington Smithson, are the best known men of the age in England, and later Sir William Bruce and members of the Milne family, in Scotland, of which the latter were chiefly clerks of works at Holyrood Palace, Edinburgh.

It is necessary to describe briefly the change which occurred within a decade of the accession of James I. to the English throne. The King desiring a great palace at Westminster, Inigo Jones, the Court Surveyor, was instructed to prepare plans for a palace facing the Thames, with a frontage to Whitehall. This was a large rectangular block of buildings, with a central courtyard, of which only the small block known as the Banqueting Hall, now standing in Whitehall, was ever erected. The death of James I. in 1625, together with the vacuity of the privy purse, put an end to the venture. In the early years of the reign of Charles I. Archbishop Laud had spent much money

in restoring old St. Paul's Cathedral, and providing a new front, which was designed by Inigo Jones. This architect created a style which for elegance and richness of effect will ever mark the period as one of the highest inspiration in the true principles of Palladian architecture, as interpreted for English use. He is said to have first visited Italy at the instigation of the Earl of Pembroke, for whom he subsequently designed additions to Wilton House, Wiltshire. His earlier works, containing some influence from the prevailing style, include Charlton House, Kent, for Prince Henry; Houghton Hall, Bedfordshire; Dorfield Hall and Crewe Hall, both in Cheshire (of which the last-mentioned was burnt down in 1866, and rebuilt by the son of Sir Charles Barry). Those of purer Palladian type include the Queen's House, Greenwich; Rainham Hall, Norfolk; St. Paul's, Covent Garden, and Piazza; Ashburnham House, Westminster; additions to Kirby Hall; Coleshill in Berkshire; and many others.

Bramshill Park, Hampshire, is an Elizabethan House of the type of Hatfield House, Herts, and Blickling Hall, Norfolk. Bramshill was built after 1603 by John Thorpe, the architect responsible for additions to Holland House, Kensington. During the coronation year of Charles I. it received additions in the prevailing character for the owner, Lord Zouch. The long gallery is 20 ft. 6 in. wide, and has a length of 130 ft. Within are some fine early Jacobean ceilings, typical panelling, chimneypieces, and tapestries from Mortlake and Brussels, the designs of the latter being by Rubens.

#### *Mingled Periods.*

Forde Abbey, Dorset, one of the bequests of Henry VIII., retains its mediæval character externally, but has within the additions of several periods. The hall is a fine apartment, panelled in a late type of Jacobean work. The staircase is carved for the whole of the balustrading in late Charles I. style. The Grand Saloon on the first floor contains a rich ceiling in the Inigo Jones manner, with plastered panelling to the walls, while the chapel and drawing-room are respectively treated in the Georgian and Adam styles. There is much fine early Italian and French gilt furniture in the saloon, the Italian coffers having escaped the ravages of the Cromwellians.

Brympton D'Evercy, in Somerset, the residence of the late Sir Ponsonby Fane, retains some of its mediæval associations, when it belonged to a branch of the famed Sydenham family. The house stands a mile or so south of Montacute and the old Abbey there. The garden front is Palladian in treatment, said to be from designs made by Inigo Jones; and, within, the panelling and decorations, except the chimneypieces, are certainly of the same period. The wood-carved candelabra were purchased by the late owner at the sale of effects from Kensington Palace, and there are many other items of interest, including some valuable Queen Anne bedsteads.

With Wilton House, near Salisbury, we are brought into contact with the grandeur of state rooms erected during the reign of Charles I. The historical associations are not dissimilar to those of Forde Abbey, Wilton being the gift of Henry VIII. to Sir William Herbert. Philip, the third Earl of Pembroke, married Penelope Stanley, and was a great patron of the arts. He it is who is said to have started Inigo Jones on his architectural voyage. It seems that the original additions, made about 1633, were transferred by Inigo Jones—owing to his preoccupation at Greenwich for the Queen's House there—to a French architect, M. Solomon de Caux, whose work appears to have been destroyed by fire when the present fine apartments were erected by John Webb from Jones's designs subsequent to 1647. The state rooms occupy over 180 ft. of the south front, and consist of three principal rooms, of which the centre and largest apartment is



60 ft. long by 30 ft. wide and 30 ft. high, and is usually known as the Double Cube, or Vandyke Room. The room west of this has similar dimensions, but is 30 ft. square, and therefore called the Single Cube Room. The decorations are in white and gold, the ornament being made of a special form of composition peculiar to this architect.

#### *Introduction of the Sash Window.*

Work of a similar nature was being executed at Greenwich at the time, and at Old Somerset House, London, and Ashburnham House, Westminster. The nature of the interior of the Queen's House, Greenwich, is somewhat altered by subsequent additions. It is necessary here to remark that the sash or guillotine window was not introduced into England until 1670, or thereabouts, and the type of window used by Inigo Jones was a transomed and mullioned window, or rectangular space divided into four lights, as at Brympton D'Evercy and Forbes House, Gloucester. The introduction of sash windows at Greenwich has materially altered the character of its appearance from both aspects, within and without.

The hall is a square apartment, with a gallery over running all round. The panelling is modern. The black-and-white marble floor reflects the pattern of the ceiling, and was executed by the King's Mason, Nicholas Stone, of Long Acre. The house was apparently built to arch over the main London road, with one frontage to the river and the other to Blackheath. It was probably built as a place of retirement for safety and easy escape during the time of national unrest. The Puritans were a strong, determined body, and threatenings of civil warfare had doubtless continually reached the ears of the Court. Hence this halfway house between London and Gravesend.

A large room on the third floor, facing the river, is entirely hand-painted by Gentileschi. It is known as the room of Queen Henrietta Maria. The room on the opposite side of the gallery was probably the King's Audience Chamber, and was arranged for hanging tapestries.

The interior of Ashburnham House gives a good idea of the character and scale of the work of this period. The staircase is a particularly fine conception. The over-doors are nicely carved, the ceilings are of bold design, and true constructionally. The Busby Library is a later work of the time of Wren, but the carved bookcases and the chairs are earlier, and reward careful scrutiny.

With the period of the Commonwealth we need hardly concern ourselves. It was a time of stagnation in things relating to art, while furniture was of the simplest and most severely utilitarian nature. The Royalists and their supporters were a hunted race, continually fighting. Charles I. was a fugitive, and Inigo Jones sought to hide his fortunes in Hackney Marshes.

#### *Restoration and Revival.*

The Restoration, followed by the succession of Charles II., was a period of active art, a revival of that of Charles I., and with a tendency to nationalise a style. Carving was rich, of good design, and more centralised. The cornices were of floral character, anticipating the William and Mary period. Ramsbury Manor, in Wiltshire, may be cited as depicting this style in its maturity, as practised by John Webb after the death of Inigo Jones. To this period must be assigned much of the finest work of John and Robert Mylne and Sir William Bruce at Edinburgh, where ceilings at Holyrood were executed by the plasterers John Halbert and George Dunserfield, associated with certain Dutch painters and carvers, and also work at Kilmainham Castle and other places in Ireland. With the accession of James II. the true Wren feeling is to

be noticed, if it was not already heralded at Badminton House, Gloucestershire, when the Duke of Beaufort in 1682 decided to erect his residence in the park at Great Badminton. Much of the carving indicates the influence of that famous craftsman Grinling Gibbons. Some Jacobean panelling from Raglan Castle has been incorporated here. The dining-room is sub-divided by means of lofty fluted composite columns supporting a modillioned and consoled entablature. Sir Christopher Wren's work at Chelsea Hospital dates from this time, and the room from No. 3, Clifford's Inn, at the Victoria and Albert Museum, is an example of James II. period work, with bolection mouldings to the large panelling and enriched mouldings and carvings centralised at salient positions in the room. Mr. Edward Strange and Mr. Oliver Brackett have compiled a detailed description of the room and its history, from which it appears that the room was occupied by John Penhallow, who leased the apartment by virtue of his election in 1674 as a member of the Inn, and caused the decorations to be made.

#### *The Mature Renaissance.*

Wren's additions to Hampton Court Palace and William Talman's work for the Duke of Devonshire at Chatsworth may be surveyed in comparison, being of the period of William and Mary. The state rooms at both places are of the highest standard of English decoration. While exhibiting lofty grandeur, there is a restraint peculiar to the period possessing the hallmark of refinement and grace, combined with masculine strength of proportions. From a critical standpoint, however, the elaboration of the carving, like that at Cassiobury Park, Belton House, and Holme Lacy, suffers from over-delicacy, being so deeply under-cut as to render it unsuitable to the nature of the material used. Pine-wood and oak were the chief mediums for carving, and cedar and oak for panelling, with inlays of various grained hardwoods. Grinling Gibbons, working much at St. Paul's Cathedral with a small army of assistants, created a school which resulted in a wave of new inspired craftsmanship throughout England. Seldon, Thomas, Young, Joel Lobb, Davis, and Watson are a few of the joiners who carved after this manner, and the French type of metal-work by Tijou set the fashion in wrought-iron work. Gibbons worked with Austin and Cibber at Trinity College, Cambridge, while at Oxford there is good work at Corpus Christi College and in the Library at Queen's College.

The churches of London are rich in work of this period, St. Stephen's, Walbrook, being the finest example of Wren's work next to St. Paul's Cathedral, and St. James's, Piccadilly, may be said to take the third place.

There was, until recently, a small house off Billingsgate known as the Ward School, Love Lane, which possessed several typical features of the period, including a good staircase and a panelled and painted room with a circular modelled ceiling of effective character.

The Board Room of the New River Company in Rosebery Avenue is one of the most complete rooms of this era, having a fine chimney-piece carved by Gibbons with his usual naturalistic features, and a rectangular ceiling with large oval painting in the centre depicting Hugh Middleton, the founder, surrounded by a modelled plaster wreath picked out in various colours and tints.

During the reign of Queen Anne the same style prevailed, with a slight tendency towards classic ideals, and is exemplified in the work of Hawksmoor, who is said to have been responsible for the design and erection of the Orangery at South Kensington. He was also the author of several large country seats,





DETAILS OF CRAFTSMANSHIP (SERIES III.). XXIX.—DETAIL OF CARVED NICHE IN THE CHOIR, ST. PAUL'S CATHEDRAL.  
BY GRINLING GIBBONS.









DETAILS OF CRAFTSMANSHIP (SERIES III.). XXX.—DOORWAY FROM ROOM IN No. 3. CLIFFORD'S INN, LONDON









DETAILS OF CRAFTSMANSHIP (SERIES III.). XXXI.—DETAIL OF CARVING TO OVERMANTEL IN DINING-ROOM AT BELTON, LINCOLNSHIRE.









ARCHITECTURAL DRAWINGS AND SKETCHES. XXIV.—LONDON IN THE 'FORTIES: PICCADILLY CIRCUS AND LOWER REGENT STREET.

(From the Lithograph by T. S. Boys.)









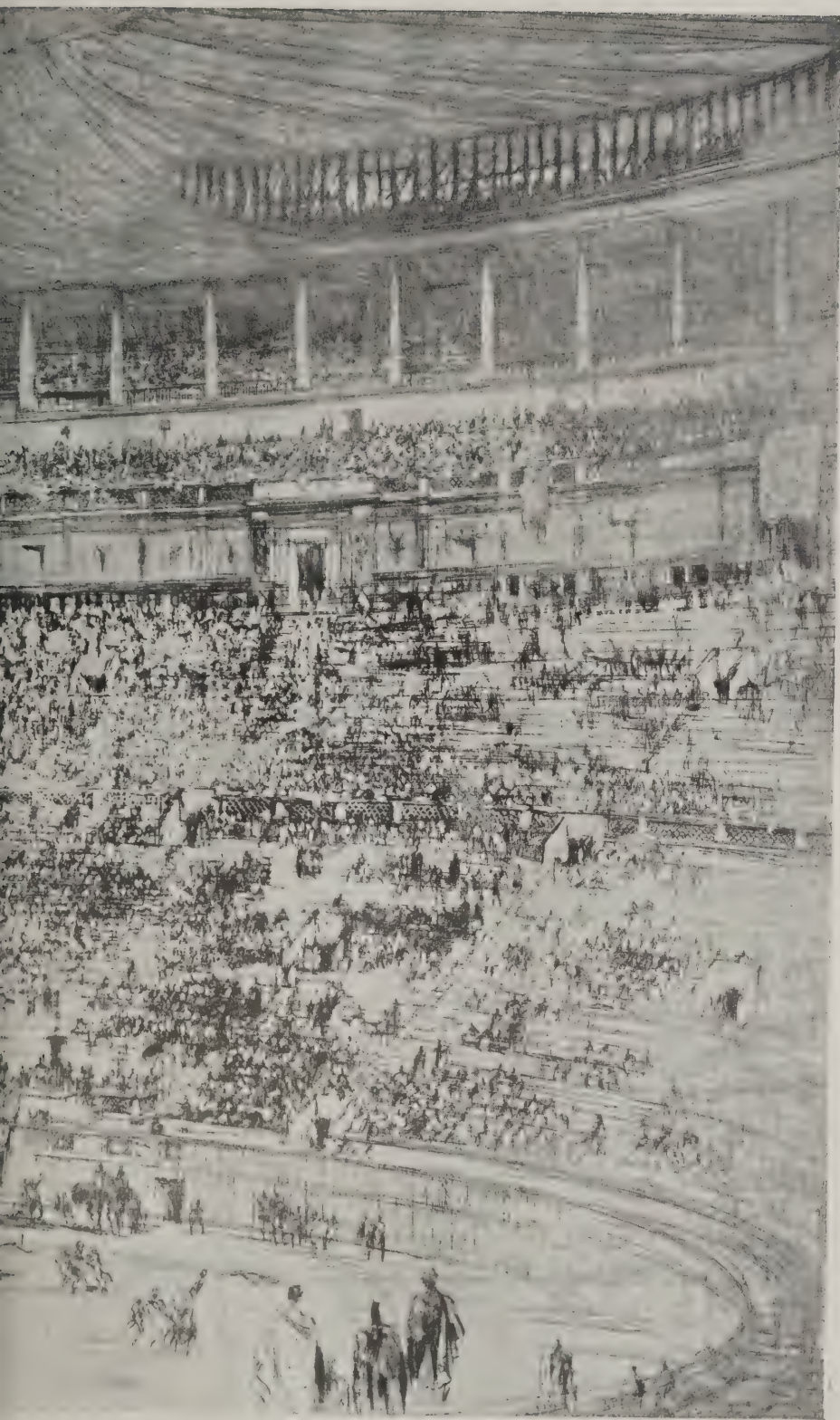




ARCHITECTURAL DRAWINGS AND SKETCHES. XX

(From the *Etching*)





A PERFORMANCE AT THE COLISEUM, ROME.

*William Walcot.*)







including Barnsley Park, Gloucestershire, and Easton Neston, Northamptonshire.

The decline in style is notable about this time: Designs in plaster-work were wild, and often contained meaningless motives and ugly formation, but the art of the painter flourished. The work of Streater at Oxford, and Verrio at Chatsworth, was followed by that of Sir James Thornhill, Sleker, and Amiconi. The work of the latter artists may be seen at Moor Park, Hertfordshire, where Leoni has produced his Italian rococo style upon English soil, but with a certain restraint which invests it with dignity.

#### *The Classic School.*

The work of James Gibbs brings us to the Hanoverian period and the Classic School. Gibbs was an exponent of the bisymmetric principle, or the art of equal balance, which was so satirically ridiculed by Pope in his criticism of the Formal Garden. It is, however, essential in certain periods of decoration that equivalent values should create equal balance, unless one desires the more occult form of art, as exemplified by the Chippendale School and its prototype, the Louis XV. period of French art.

This was followed by the school of Robert Boyle, Earl of Burlington, that chief patron of architecture, who generously encouraged study and design, with research and the publication of good works. The school included many eminent architects, as Colin Campbell, Ripley, Isaac Ware, James Paine, and William Kent. Some of the houses produced during this period include Houghton, Wolterton, Hursley Park, and Holkham, in Norfolk, together with decorations to Kensington Palace and the Earl of Burlington's Villa at Chiswick.

#### *Chambers, Chippendale, and Chinese Ornaments.*

The middle of the century saw a great change in decoration, owing to the influence of the French School, when Chippendale and Carwithan produced furniture of an entirely new character, introducing the cabriole leg to chairs and settees and fine inlaid work to wainscoting and floors. The style may be said to be a revolt against the rectangular form of the classic ideal, by which all squared formation was screened by occult curves and foliage. Cherubs and subjects from Æsop's Fables figure in ceiling designs, and with the publication of Sir William Chambers's book on Chinese ornament the Chinese-Chippendale style resulted. Had it not been for the extravagances which this latter phase produced, the style—which is very little understood in this country—might have developed some very interesting features. As it is, however, the continual quest for fresh motives resulted in the discoveries of new fields of inspiration at Herculaneum and Spalato, where the Adam Brothers laid the foundation of the school of thought and practice. Nostell Priory, Yorkshire; Sion House, Isleworth; Lansdown House and houses in St. James's Square; Adelphi Terrace, etc., depict the character of the style, which also influenced the allied crafts.

[Note: Three of the illustrations that accompanied Mr. Bullock's lecture are reproduced on the Supplementary Plates in this issue.]

### THE PLATES.

#### *Carved Niche in St. Paul's Cathedral.*

It would be interesting to know to what extent we are indebted to Wren for the design of the Grinling Gibbons carvings done under Wren's supervision—whether the architect usually sketched out a design, or whether he gave the carver full freedom. Certainly Gibbons's best work was done for Wren, but it does not follow that the architect dictated every detail, but only that Wren's presence and in-

fluence must have called forth Grinling's best endeavour. The niche illustrated shows us Gibbons at his richest.

#### *Doorway from No. 3, Clifford's Inn.*

It would be hypercritical to condemn the absurdity of putting a pediment to an inside door. True, it cannot perform the essential function of a pediment as a shelter; but the feature is so often turned to decorative account that its original purpose has become obscure—has been in fact superseded. Without the pediment this doorway would possess but little interest; and the same observation applies to ninety-nine hundredths of the finest interior doorways in existence.

#### *Carving to Overmantel in Dining-room at Belton.*

This singularly graceful and delicate specimen of carving formed one of the illustrations to Mr. A. E. Bullock's paper read before the Royal Photographic Society, and printed on page 4. Mr. Bullock includes this among the instances of dangerous undercutting.

#### *Piccadilly Circus and Lower Regent Street.*

Another of the fine topographical records in which T. S. Boys rendered street architecture with fidelity and feeling.

#### *A Performance at the Coliseum, Rome.*

Mr. William Walcot's vivid visions of archaic incident are valuable for the extraordinary power with which they re-invest with life and function the ancient buildings of Egypt, Greece, and Rome. In the present instance, the suggestion, rather than delineation, of crowded spectators and strenuous contestants is marvellously shadowed forth.

### CORRESPONDENCE.

#### *Trading with the Enemy.*

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—Business men throughout the country should read the report to the President of the Board of Trade by the Committee appointed to advise on matters arising under the Trading with the Enemy Amendment Act, 1916. The Report (Cd. 9059) is short, and costs only one penny, but it indicates in an unmistakable way the methods adopted by our German enemy to sap the very business life of this country by cunning and unscrupulousness.

It is not sufficient satisfaction to say that this undermining has been scotched in many cases. So it has, but there remain numerous other cases unnoted, and also the possibility of the process being resorted to again after the war, unless business men grasp the situation and insist on such further legislation as may be considered necessary to cope with the evil.

The sources from which the enemy firms obtained financial assistance, the operation of German banks in London, the habitual substitution of British names of foreign traders, and living under aliases for years, the remarkable extent to which German businesses were conducted through British staffs and by British employees, the German control of important metal industries, and the means adopted to avoid payment of income tax, are factors referred to in the Report.

May I quote one paragraph from the Report? It is this:—

"Whatever the business was, organisation, adaptability, personal application and, in case of necessity, ruthless competition, produced successful results, for in few of the numerous cases upon which the Committee advised was the business found unprofitable."

G. A. HUMPHREYS (F.R.I.B.A.).



## PRESENTATION OF THE ROYAL GOLD MEDAL.

ON Monday, June 24, at the rooms of the Royal Institute of British Architects, Conduit Street, Regent Street, Mr. Henry T. Hare, President, took the chair at a general meeting at which the Royal Gold Medal was formally presented to Mr. Ernest Newton, Past President. Letters of regret at inability to attend were announced from Lord Leverhulme, Mr. Francis Hooper, Mr. Paul Waterhouse, and Sir Ernest George. Mr. Waterhouse wrote: "Mr. Newton's work as an architect is best described, like other things of great excellence, in negative terms. The absence from it of those lapses to which most designers are liable is the mark of its high level of success. It is characterised always by that restraint which is the summit of refinement. He keeps always at the top of his form and exhibits in his designs that apparent absence of effort which is always the result of great strength." Sir Ernest George, in the course of his letter, said: "Please tell Ernest Newton how gladly he is welcomed into the list of Royal Gold Medallists. He raises the average of merit found there. It is a very happy selection for Royal favour after the continuous hard work that our friend has done with consideration and care in a Department of the State. He has been very helpful in his aid to architects in this time of stress, and all with a self-effacing modesty. Apart from all this is the solid claim to honours on the ground of his work as an architect of distinction. His beautiful work has always the charm of suitability, with a refined grace enriching the land that he touches with his wand. May he long live to spread his work and to enjoy his honours in health and prosperity."

*The President's Speech.*

The President, in making the presentation, said: Ladies and Gentlemen,—The presentation of the Royal Gold Medal has always been regarded as one of the most important of our annual functions. It is an occasion on which we are privileged, through the generosity of our patron, His Majesty the King, to show our esteem of a brother architect and our appreciation of his accomplished work, and we have not in the past limited this honour to our own countrymen. We recognise the brotherhood of artists to be world-wide, and since the institution of the Royal Gold Medal in 1848 by Her Majesty Queen Victoria we have nominated almost as many foreign as British recipients.

The Royal Gold Medal is conferred by the Sovereign annually on a distinguished architect or man of science or letters whose work is judged to have tended to promote or facilitate the knowledge of architecture and the various cognate sciences.

During the last three years the Medal has been awarded once to Scotland, once to France, and once to Canada, and on each occasion, either through illness or the abnormal conditions induced by the war, the recipient has been prevented from attending personally, and the presentation has been of necessity made to a representative. This has been a matter of great regret on our part, as it is always interesting to meet the man whom we delight to honour face to face, to come into direct contact with his personality, and to hear him speak on matters which concern us.

Having sent the Medal out of England on two successive occasions, it was manifestly our duty this year to consider the claims of our home architects, and in proceeding to do so we had no difficulty or uncertainty in nominating our immediate Past-President, Mr. Ernest Newton, whose work for many years past has been familiar to us as embodying all that is best and most characteristic in English domestic architecture,

the one branch of our art in which we consider we compare most favourably with other countries. We are gratified to have Mr. Newton here with us to-day to receive in person the Medal, which we feel his accomplishments fully merit.

It is customary for the chairman on these occasions to give a short sketch of the career of the Medallist, and I must of necessity follow that precedent, but will be as brief as possible. Mr. Newton was born in London in 1856, and was one of those fortunate young men to be articulated to the late Mr. Norman Shaw, with whom he stayed some considerable time after the expiration of his pupilage. Intimate contact with that great master and his work over a period of years could not fail to exercise considerable influence over a man of Mr. Newton's sensitive temperament, and that influence is sufficiently evident in the works which we see illustrated around us, though in every case I think we may find the expression of strong individuality, and one could almost guess the authorship of one of Mr. Newton's buildings without looking for the signature. I remember many years ago, long before I had the pleasure of Mr. Newton's acquaintance, regarding his domestic work as being typical of what such work should be. In every case you will find the plans to be models of an English house most carefully studied in every detail.

As you will recognise from the numerous illustrations we see on the walls, Mr. Newton's practice has been widespread and various, and while the most important of his works are in what is known as the "Georgian" manner, he is equally successful in the more picturesque and characteristically English periods, while the Hither Green Church is a most excellent piece of late Gothic, worthy to rank with the best work of our ecclesiastical architects. At the other extreme, I may instance the building in St. James's Street, designed in collaboration with Mr. Norman Shaw, which is evidence of the wide range of his knowledge and abilities. We look forward to many more examples of his skill and ability when the arts of Peace are once more restored to us.

Mr. Newton was one of the founders of the Art Workers' Guild, an association of craftsmen and others which has exercised a very great and beneficial influence over a period of years over the crafts appertaining to architecture, by fostering and encouraging an enthusiasm which had not previously existed.

Mr. Newton was elected Associate of the Royal Academy in 1911, and in due course we hope to see him proceed to full membership.

During the last two years Mr. Newton has been in charge of the Licensing of Buildings under the Defence of the Realm Act, and the entire profession is much indebted to him for the sympathetic and tactful manner in which he has carried out the duties of his office, which in less capable hands might have weighed much more heavily on us. The sound judgment required to weigh carefully the various interests and, above all, the national interest, is not given to every man, and we have indeed been fortunate in these hard times to have Mr. Ernest Newton occupying so onerous a position. One is, however, constrained to hope that it may be possible within a reasonable time to terminate the office.

Mr. Newton's tenure of the office which I now have the honour to hold will be fresh in the minds of you all. In that position he was called upon to deal with the many serious and unprecedented difficulties suddenly thrust upon us by the outbreak of the war, and you are well aware how ably he met these calls upon his judgment and discretion. Although the ordinary activities of the Institute have been suspended during the last



four years, I am quite safe in saying that the position of President of this Institute is more difficult and strenuous than in normal times, and it is not to be wondered at that Mr. Newton found it impossible to continue to bear the burden for yet another year, though we should have been pleased to see him still in the chair.

I am sure you have now heard me long enough, and are anxious to hear what Mr. Newton has to say, so I will conclude by presenting the Royal Gold Medal formally to him, and expressing the wish that he may wear this and his other honours for many years, and that when normal times once more return to us we may continue to see year by year those pleasing works which we have always looked for with so much interest and appreciation.

*Mr. Newton's Speech.*

Mr. Ernest Newton, who was accorded a most enthusiastic reception, in acknowledging the presentation, said: Mr. President, Ladies and Gentlemen,—As our President has said, on the last three occasions the recipient of the Royal Gold Medal has not been able to accept it personally. He has thus been spared a rather trying ordeal, especially if he happens to be a modest man, unused to receiving publicly the outward and visible tokens of the esteem of his colleagues. It is, however, an ordeal that none of us would willingly shirk.

I remember many years ago looking at the list of Royal Gold Medallists with some awe and reverence, and I need not say how proud I am that my name should now be inscribed on that roll.

The President has alluded to the time I had the privilege of spending in Mr. Norman Shaw's office. Only those who had the immense advantage of close intimacy with Mr. Norman Shaw and with his work can know what it meant. Every drawing that he made, everything that he said and did, was an inspiration and a stimulus. He had an immense influence on all who came into contact with him, and an amazing power of bringing out all that was best in those who worked with him. I remember as if it were but yesterday the day when, as a timid schoolboy of seventeen, knowing practically nothing of architecture, I took my appointed seat in the "modest" room in 30, Argyll Street, which served as the draughtsmen's office, and started my career by copying, to the best of my ability, one of the wonderful working drawings for which Mr. Shaw was so famous.

It is not easy to lay down the lines on which future generations of architects are to be educated. The advantages of a definite and systematic training in a school are obvious, but I venture to hope that the equally great advantage of being guided and inspired by a great master will be considered in any scheme that may be decided upon. I admit that our system of education so far has been rather haphazard. We must not, however, be content with imparting knowledge, with training the hand, the eye, and the mind only, but must create the desire to exercise the knowledge and skill acquired by school training, and nothing is so certain to do this as close personal contact with a great architect and with his work.

Mr. Hare has mentioned most sympathetically the work I have been doing for the past two years in connection with building licences and the control of building, and this affords me an opportunity of thanking him for the valuable assistance he has given me in carrying out my arduous and difficult duties. My position is not one that anybody need envy, but whether I shall be judged to have filled it with success or not, I can, at any rate, say that I have tried to be fair, considerate, and practical, and I think I may, at least, claim that a very drastic

Regulation has been administered without serious friction, and that all the operations that have had to be performed, even that of the lethal chamber, have been performed surgically, if not always quite painlessly.

Over two years' close connection with Ministries and Government Departments has brought home to me one thing very clearly, and that is the need for unity and organisation, and I hope that as soon as practicable after the war it may be possible to go so far, at any rate, in that direction as provided for in the new Charter which now lies half born in a pigeonhole. Had it not been for the outbreak of war, this Charter would, I hope, have been in operation, and my predecessor, Mr. Blomfield, would have seen his strenuous work on behalf of architects crowned with success.

Before concluding, I should like to pay my tribute of affectionate respect to all those gallant young architects who, many of them on the threshold of a brilliant career, have laid down their lives for their country. Many of those who have worked with me either as pupils or assistants have been killed in action. Amongst them, Alick Horsnell, who seemed to be destined to great things, and who had already a great influence over his contemporaries. It may be some small consolation to those who proudly mourn their loss to know that we cherish their memories, and that although they have gone, they are not, and never will be, forgotten.

I must thank you, Mr. President, most sincerely, and through you my brother architects, for the proof you have given me of your esteem in considering me worthy to be recommended as the recipient of the Royal Gold Medal, which has been rightly designated as the highest honour that the Institute has it in its power to confer. Believe me I am profoundly sensible of the honour, and much encouraged by it.

*Sir Aston Webb and Mr. Reginald Blomfield.*

Sir Aston Webb congratulated Mr. Newton upon the honour conferred upon him, and said he trusted that June 24, 1918, would long be remembered as the day the Institute conferred the Royal Gold Medal upon that gentleman and also as the day when the Italians drove the Austrians back over the Piave, and thus he hoped saved Vienna and those dear Northern Italian towns that they all knew and were so fond of. Mr. Newton excited in the feelings of his friends admiration and respect, and especially affection, and they also found the same qualities in his work that they found in the man—the houses he had planned were lovable houses, the houses one would like to live in. Mr. Newton must feel very proud of his association with Mr. Norman Shaw, and it was a great compliment to Mr. Newton that he should have been entrusted with the completion of that great artist's works. It was a happy coincidence that both Mr. Newton's sons were present that day to see their father receive that honour—an honour which he had no doubt they greatly appreciated, as also must Mrs. Newton, who had been such a help to him in his Presidency. They could only hope that as soon as peace came Mr. Newton would put an absolute stopper on his work at the Government Department where he was now engaged, and go back again to his work at Gray's Inn, and he hoped the State would recognise the great skill and ability with which he had carried on one of the most difficult jobs that a President of their Institute could possibly be called upon to undertake.

Mr. Reginald Blomfield also offered his congratulations to Mr. Newton, and said they all believed that no man had won that honour more deservedly than their late President.





## WAR BUILDINGS SECTION

### ARCHITECTS AND HOUSING SCHEMES.

#### *Housing for Leeds.*

THE following letter on an important aspect of housing appeared in the "Leeds Mercury" of June 10:

Sir,—We have noticed with much interest the correspondence in the daily Press relating to the housing schemes which are proposed to be carried out in the near future.

This raises a question in which we, as architects, are greatly concerned, and all others who desire that the outcome of these proposals should result in well-planned and healthy dwellings of a simple character, designed with taste.

The provision of wider roads from the centre of the city to the outskirts, and means of quick transit, together with ring roads to connect together those which radiate from the centre, and to provide means of access to the new village settlements, have received the careful consideration of the Improvements Committee and the Development Committee.

Excellent maps and improvement schemes incorporating these proposals have been prepared by the City Engineer.

These have been followed up by a town planning scheme for an area in the Middleton district, which has just been laid before the City Council for approval, and we understand that schemes in other districts are in course of preparation.

The success of the garden cities such as Port Sunlight, Golders' Green, Hampstead, Letchworth, Bournville, New Earswick, and other places has been largely owing to the efficient services of architects, who have designed well-planned houses of pleasing appearance, using material readily obtained in the neighbourhood, which blend happily with the local colour of the district.

Granted that it may not be possible in all cases to realise the charm of the old-world country village, much may be done in this direction by the means of well-directed efforts.

Seeing that it is evident that the effective carrying out of these garden cities and village settlements depends so largely upon the skill of architects, we would respectfully urge that their services should be made use of in the housing schemes which are being promoted by the Leeds City Council.

G. FREDK. BOWMAN, President.  
WILLIAM H. THORP,  
H. S. CHORLEY, } Past Presidents.  
PERCY ROBINSON,  
DOUGLAS BOWMAN, Hon. Sec.

Leeds and West Yorkshire Architectural Society, 5, Greek Street, Leeds, June 7.

#### *The Bradford Housing Scheme.*

Mr. J. W. C. Atkinson, architect, of Bradford, has just published a pamphlet on the housing problem, in which he deals specifically with some phases of Mr. E. J. Smith's Bradford scheme. The author pays a good deal of attention to the statistics advanced by the chairman of the Health Committee, and in regard to the assertion that the infant death-rate of 1914 in the three worst wards was about three-fold that in the three best wards, he points out that during the ten years preceding 1914 each of the Idle, North Brierley West, Thornton, and Tong Wards was included in some years in the three best wards and in others in the three worst wards. Tong has been one of the three best wards three times and one of the three worst twice. More criticism of Mr. Smith's statistics is given in the chapter relating to small houses, in which the author deals with the assertion that the death-rate is found to be three times as high in dwellings of one and two rooms as in houses of five rooms and over. He maintains that in making these comparisons the ages of the occupants should be taken into account, and that as more children are born and more aged people live in small houses the death-rates are

necessarily much higher. This is significantly shown in a table which shows the mortality of Bradford children up to five years at 44.6 per thousand, and of people over sixty-five at from 66.0 to 237.2 per thousand. In reply to Mr. Smith's statement that the death-rate in houses of five rooms and over is only 8.6, it is pointed out that this implies the average life of those who live in such houses "in the midst of green fields, spreading trees, singing birds, and meandering brooks" would be 116 years.

Mr. Atkinson states that insurance companies, who have had much longer experience than the health departments of local authorities, never inquire whether a person who wishes to insure lives in a house containing five rooms or more, as they certainly would if persons living in smaller houses died off faster by from 50 to 200 per cent., as Mr. Smith states. The Chairman of the Health Committee, Mr. Atkinson contends, "ignores every one of the conditions which generations of experience have taught insurance companies are of importance, and uses to support his case a condition which they ignore. . . . No life insurance company could exist for any length of time if it depended on its business transactions on such inadequate data" as those which are commonly put forward in advocating schemes of working-class reform. In a chapter on the slum problem the author points out that recent legislation practically compels the owner to keep in repair the inside of the house, although the repairs are necessitated by the wilful destruction or careless use of the premises by the tenant. Thus the slum tenant is encouraged to believe that the fact that he is a bottom dog is due to the house he lives in, and not to his own conduct, which is only the natural outcome of the arrangement of the brick and mortar box he lives in. Mr. Atkinson concludes his essay by an examination of various housing proposals, and he seems to favour that of the committee of the



Building Societies' Association, which suggest the erection of houses free of rates for a term of years.

#### *Working Women and Housing Problems.*

The following letter has been published by Mrs. Gertrude Emmott, chairman of the Women's Housing Sub-Committee, Ministry of Reconstruction, Westminster, S.W.1:

The Women's Housing Sub-Committee, set up by the Minister of Reconstruction, has been entrusted with the task of inspecting specimen houses built for the working class, and advising on housing plans, "with special reference to the convenience of the housewife."

At every stage of our inquiries we have been confronted with evidence that the housewife's needs require closer consideration than they have so far received—that to secure health and comfort in the home greater weight must be given by every housing authority to the practical experience and counsel of the woman on whose shoulders the work of the home falls.

These facts are coming to be recognised by the country at large, but there is still an unlimited field for further work among women in order that two ends may be served:

(1) The formulation and expression of their needs by the working women who are primarily concerned.

(2) The education of the women in the practical means by which these needs can be met.

It is moreover the aim of the sub-committee to be in a position to represent the views of the women whose practical domestic experience or expert knowledge of various aspects of the housing question entitled them to a hearing.

I venture, therefore, to make a two-fold appeal to all women's organisations (and also to those individuals who have made a special study of the question), first, to use the full extent of their resources in stimulating among working women investigation and discussion of housing problems

from the housewife's point of view; and, secondly, to furnish the sub-committee with reports on any investigations and conferences for which they are responsible. I would ask them to distinguish clearly between these improvements in house-plan-ning which women regard as essential and those which they consider desirable, but of secondary importance. It must be remembered that the higher standard of house and the increased cost of labour and materials after the war will necessarily increase the rental of the house, and this has to be borne in mind when recommending improvements.

Points of especial importance which may be suggested for discussion are the position of the bath; arrangements for cooking, heating, and hot-water supply; number, size, and ventilation of bedrooms. Any reports and communications should be addressed to the Secretary of the Women's Housing Sub-Committee, Ministry of Reconstruction, 2, Queen Anne's Gate Buildings, London, S.W.1.

### SCREENING PLANT AND HAULAGE HOUSE IN REINFORCED CONCRETE.

This plant, erected at the Ton Phillip Colliery Company's pit at Tyltalwyn, near Port Talbot, is remarkable for being constructed throughout of reinforced concrete, with the exception, of course, of the mechanical parts, such as tipplers and screens. The general construction consists of a very large superstructure carried upon reinforced concrete bases and columns. These latter are securely braced in all directions in order to stiffen the whole structure, to withstand the pull exerted by the haulage machinery which will be placed upon it. In addition to the haulage, machinery will be installed on the superstructure for handling and screening the coal.

A number of elevated tram roads are being constructed, adjoining the main structure, to carry the coal trams to and from the screening plant.

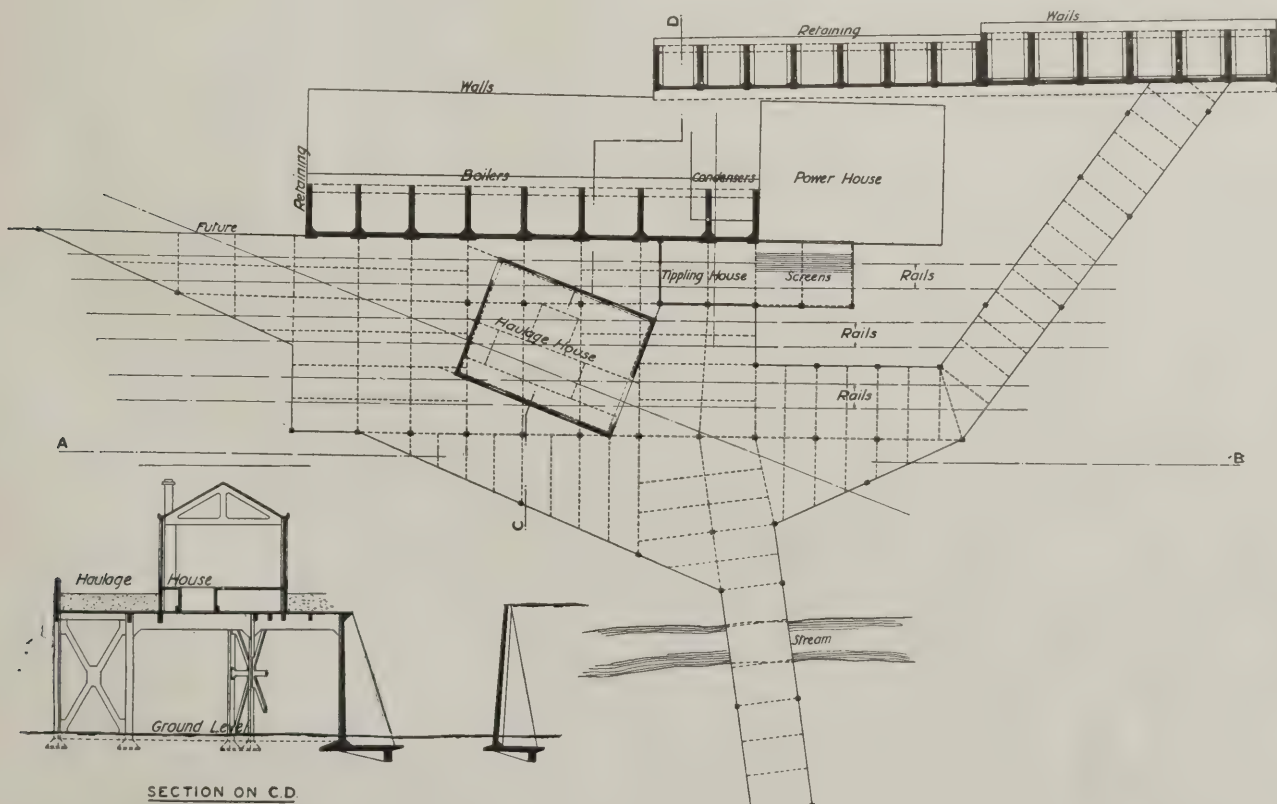
As is usual in colliery work, a number of heavy retaining walls are included in the scheme, and they will retain what is virtually a hillside. By the adoption of reinforced concrete for this portion of the work, the frequent "cracking up" which occurs with masonry walls will be avoided.

For the successful working of haulages and mechanical plants, freedom from vibration is a necessity, and the raft at Bryn has amply proved that for steady working of such plants reinforced concrete is a perfectly satisfactory material.

Owing to the unsatisfactory nature of the ground upon which the haulage house has been constructed, and the enormous amount of vibration caused by the haulage engines, a reinforced foundation raft, 8 in. thick, is formed over the whole of the site, which measures 37 ft. by 29 ft. Beams 18 in. by 12 in. net in section were provided on all four sides, on which the columns are supported.

The floor of the haulage house is 34 ft. by 25 ft. 6 in. overall, and is 26 ft. above the foundation level, supported by six external columns, 14 in. square, tied with 14 in. by 10 in. diagonal braces. The main floor beams are 27 in. by 12 in. net in section at the sides, and 20 in. by 12 in. at the ends, supported by the columns. A pit has been formed in the floor to accommodate the haulage drum, 17 ft. 3 in. long by 6 ft. 5 in. wide by 3 ft. 6 in. deep, the sides and ends of which are respectively 36 in. by 14 in. and 38 in. by 12 in. net in section, and act as beams to carry the engine. These beams are carried by four internal columns, which are 15 in. square, and tied on two sides by 14 in. by 10 in. diagonal braces, and on the other two sides by 12 in. by 12 in. horizontal braces.

The walls and roof are formed of 4-in. slabs, the side walls being stiffened in the



SCREENING PLANT AT TYLTALWYN, NEAR PORT TALBOT.

centre by a 24-in. by 6-in. vertical beam, and at the sides of each window by 9-in. by 6-in. beams. The roof is carried on two end and two intermediate trusses, the horizontal members of which are 15 in. by 10 in., and the sloping members and centre supports 12 in. by 10 in. in section. The rise of the roof is 7 ft.

The price of the work compares very favourably with the price of the heavy masonry structures hitherto used for this class of building, a point which is of considerable interest to engineers who have in hand the construction of large haulage houses for deep measure collieries, where, from consideration of levels, these houses have to be erected with their floor level at a considerable distance from the ground.

The work is entirely reinforced concrete and has been carried out by Mr. A. Scott, of Port Talbot, under the direct supervision of the engineer for the colliery, Mr. F. S. Carter.

The reinforcement employed throughout consists of indented steel bars supplied by the Indented Bar and Concrete Engineering Company, Ltd., of Westminster.



HAULAGE HOUSE.

### COMPULSORY ARBITRATION REJECTED BY THE WHITLEY COMMITTEE.

In a further report on the relations between employers and employed the Whitley Committee declare definitely against any system of compulsory arbitration. The grounds for this decision are that it is not generally desired by employers and employed, that it has not proved a successful method of avoiding strikes during the war, and that it would be less likely to be successful in time of peace.

The Committee also pronounce against any scheme of conciliation which would compulsorily suspend a strike or lock-out pending an inquiry. They, however, advocate the continuance of the present machinery for voluntary conciliation and arbitration, and hope that the setting up of joint industrial councils will tend to the growth of such machinery. There should also be some means for holding an independent inquiry into the circumstances of a dispute, and for making an authoritative pronouncement on it without the compulsory power of delaying the strike or lock-out.

Their main constructive suggestion is that a Standing Arbitration Council should be established on the lines of the present temporary Committee on Production. To this council disputants would be able voluntarily to refer such differences as they are themselves unable to settle.

They suggest, further, that single arbitrators should be available for less impor-

tant cases which could be heard locally, and that the Standing Arbitration Council should take steps to secure the co-ordination of arbitrators' decisions. The Committee are opposed to the enforcement of awards and agreements by means of monetary penalties.

### LEGAL.

#### Relief in a Pre-War Contract.

*Electric Pavilion, Ltd., v. Lorden.*

June 26. Chancery Division. Before Mr. Justice Astbury.

An application by Mr. Robert Lorden, builder, for relief under the Courts Emergency Powers Act in regard to an agreement over a building site at the Marble Arch, belonging to the Duke of Westminster, came before Mr. Justice Astbury in the Chancery Division on June 26.

The Duke granted to the Electric Pavilion, Marble Arch, Ltd., a lease of the ground, which comprised two plots, and the company assigned one of these to Mr. Lorden at a rent of £2,100. In consequence of the war, Mr. Lorden's building operations were stopped, and in litigation between him and the company Mr. Justice Astbury gave judgment declaring that Mr. Lorden was liable for the rent to the company, who had to pay the Duke the annual sum of £5,000 for the two plots.

In the course of the present hearing, Mr. F. Russell, K.C. on behalf of the Duke of Westminster, said that when this case was last before the Court a vulgar

and embittered attack was made on the Duke. That attack was repeated and reported in "the lower Press," with the usual headlines, which, in fact, held up the Duke to the contempt of his fellow-creatures. The Duke and his advisers felt very strongly about that.

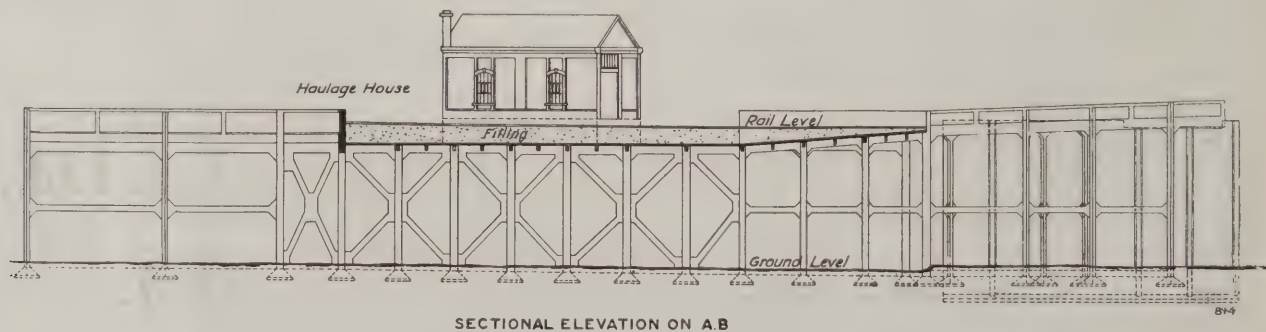
His Lordship: Nobody takes any notice of these vulgarities in the Press.

Mr. Russell: I am afraid they do.

His Lordship: Well, you have stated in open Court that the Duke resents them.

Mr. Cunliffe, K.C., who appeared for Pavilions, Ltd., said that if any words of his offended the Duke he was very sorry. He thought it was a hard case for his clients, and he was afraid he said it too strongly.

Mr. Justice Astbury said that since he gave judgment in the case the parties had been unable to arrange terms with the Duke of Westminster for reasons which were made perfectly clear in letters from the estate office. With regard to the application of Mr. Lorden, he thought it would be a proper and fair thing to grant him relief under the Act of 1917 to the extent of £1,600. That would leave him liable to pay to the plaintiff £500 a year as from June 24, 1916, the relief to extend during the existence of the present building restrictions. His Lordship observed that the defendant's operations were stopped under the Defence of the Realm Regulations and in the interests of the country. He gave the company leave to apply to the Court in the event of their profits not being sufficient to pay the £5,000 a year.



SCREENING PLANT AT TYTALWYN, NEAR PORT TALBOT: SECTIONAL ELEVATION.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

JULY 10, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1227.

## NATIONAL PAPER ECONOMY.

*Owing to the very necessary Government restrictions on paper supplies, all elements of waste must be rigorously excluded. Our readers, we are sure, will gladly assist in promoting this object, which is an item in national economy. They can co-operate with us effectually in either of two ways—(1) By placing a direct subscription for this Journal, or (2) by placing with a newsagent an order for its regular delivery.*

*The Government Paper Controller has now forbidden the return of unsold copies of newspapers and periodicals to the publishers. Newsagents are therefore now keenly interested in the elimination of the casual customer, and are morally compelled to obtain only those papers that have been previously ordered. This fresh development strongly emphasises the foregoing advice to place a direct subscription or to give a newsagent a standing order for regular delivery.*

EXCESSIVE burdens on building continue as the theme of many articles and letters in the Press.

A Cardiff correspondent makes extensive use of quotations which he attributes to "the Federation of Building Trades Employers." It is contended that the main cause of the declining popularity of house property as an investment, and the consequent decline of building, is the accumulation of charges apart from the actual building costs. "If the land is taken on lease, the usual course, there are surveyors' fees and solicitors' charges for the agreement, certifying, and lease, and then road and sewer charges to the landlord. These may easily amount to £20-£25 on quite a small building. After the house is built there are private improvements, another £10-£15 to be paid to the local authority. If part of the money is borrowed, further legal charges arise, and at each transfer of the property legal fees, stamp duties, and notice charges to the ground landlord become payable." Then when the property is let to a tenant the following outgoings have to be met before any return on capital is seen: "(1) Ground rent (whether property is let or not); (2) King's taxes; (3) local rates (often absorbing a quarter to one-third of the gross rental); (4) fire and aircraft insurance; (5) water rate; (6) repairs; (7) collector's commission; and (8) vacant property and defaulting tenants. Income-tax, too, is payable at the 'unearned' rate." All these burdens are dumped on the land as freely as if it were inscribed with the once familiar legend, "Dry Rubbish May be Shot Here." There is certainly a crying need for reform on all the points indicated, and until we get it, not only the building industry, but all other British industries, will continue to suffer from a serious set-back. When at length foreign competition becomes as fiercely keen as it is confidently expected to be, and the margins for profit are cut very close, our vicious system of penalising land and property may be a decisive factor in our defeat by foreign traders who are less heavily handicapped.

Our contemporary "Common Sense," in commenting on certain proposals for housing reform, asks, "Is it not better to recognise that the pre-war scale of rents,

especially for cottages in small towns and villages, was absurdly low?" and the comment concludes: "The right method is not to subsidise cottage building, as Mr. Hayes Fisher and the Local Government Board propose, but to keep wages at such a level as shall enable the wage-earner to pay an 'economic rent.'" Providing the writer means, not that Government intervention was actually unnecessary, but that it ought to have been, we are in hearty agreement with him. If, on the other hand, he means that in no circumstances should the Government make the subsidy, or alternatively, that the circumstances justifying the subsidy had not arisen, then we must demur. Government intervention to allay the house famine we regard as a rather desperate temporary expedient, which may either serve to point the need for revised labour conditions, or, on the other hand, may to some extent retard the revision by palliating the aching need for it. Not until the last excuse for those "absurdly low rents"—an expression that is poignantly accurate—is removed, and not until the excessive burdens on property are reduced to reasonable proportions, will it be possible to put cottage-building on the firm business basis and in the independent and entirely solvent position that we all desire for it. That it should have descended to the depths it has reached is a national scandal, demanding national reparation, and getting it tardily and grudgingly.

A special housing conference held at the Memorial Hall in Farringdon Street, London, E.C., on the last Saturday in June passed a resolution expressing the opinion that ratable value as a basis of local taxation is an obstacle to the erection of dwellings to let at a reasonable rent. There can be no question that the present system of levying taxes on "ratable value" is thoroughly absurd—a belated survival of Bumbledom. Why it has been tolerated so long is probably because it is seen to be only one of the heads of the hydra, and that not the most important of the bunch; and there is always the risk that where you cut off one head two more will grow. There are many indications, however, that local government is about to be overhauled very completely, and that its modifications will involve much-needed changes in the methods of assessing rates and taxes. It is impossible, we are constantly told, to secure immediate and thorough reform of abuses that are the slow accretions of many centuries; but this argument from inveteracy is held mainly by those who have vested interests to maintain, and it must give way before the necessity for progress, of which unrestricted building development is a basic condition.

At the Memorial Hall conference, the resolution to which reference is made in the preceding paragraph goes further than objection to things as they are, and ventures on a proposition of things as they ought to be. In substitution for assessment on ratable value, there are to be a tax on site values, and a tax levied in proportion to the income of the tenant. This seems to promise greater fairness than the present system, in which a largely irresponsible body of deplorably incompetent persons decide periodically and capriciously what is the ratable value of a house, and how much in the pound on that ratable value the victim must pay. In this arrangement, there is—to do it justice—one fixed principle, and that is, the smaller

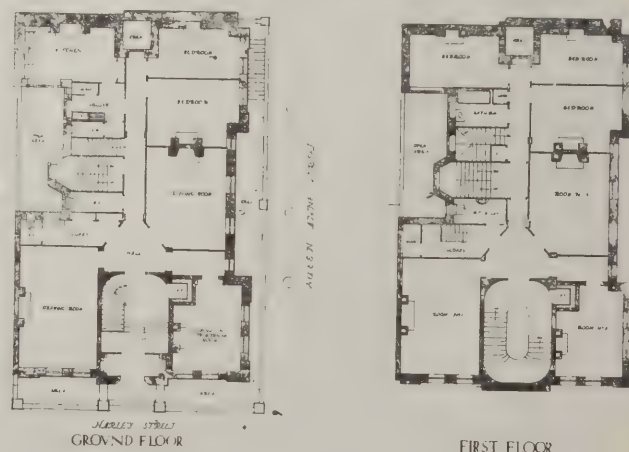


the house the greater the proportional amount to be paid in rates. If the assessment were made on the basis of so much tax per foot cube of the house, we should get some sort of a standard of assessment. You could run the rule over it; whereas to gauge or fathom the mind of an assessment committee is beyond the resources of science and outside the capacity of instruments of precision. On the other hand, there is, at first sight, something rather illogical in the proposal to measure the rate in accordance with the tenant's income, rather than on the space his dwelling occupies: it seems like making him pay for the accommodation he ought to have, rather than for what he has got. Yet there is no reason, beyond use and wont, why houses and land should be the sole criteria for rates. At first these were the most obvious means of rating. Income-tax, it is true, is an older imposition than house duty, the former assuming some sort of existence in 1512, whereas the latter was apparently a bright idea of 1695; but there has been always a strong inclination to distinguish between local and imperial taxation, and this will tell heavily, we imagine, against the attempt to draw local rates from one's income. Such a method must be inevitably accompanied by a system of pooling between the various local authorities of a large area like London; otherwise the classical discrepancy between St. George's-in-the-East and St. George's, Hanover Square, will not be effectually adjusted. But, at all events, Hanover Square will not escape with light rates, nor the East End borough be heavily penalised for its poverty. Clearly the new method would be free from the injustice of blindly putting on the screw without any means of ascertaining whether the victim could survive the pressure—that is, without reference to his income. To apportion the rate roughly on rent value is to put a charge on outgoings, and to suggest the rating of incomings is obviously more logical as well as more precise in its effects. It would also offer the advantage of lifting property out of the unfortunate category in which it has been classed as A1 for every kind of exaction, local or imperial.

In America, architects may now advertise. At least, that seems to be the effect of the repeal, by the American Institute of Architects, of a section in the Canon of Ethics which brands advertising as unprofessional and penalises it, and that is the interpretation put upon it by our contemporary "Construction," which says: "Reduced to simple terms, this action on the part of the convention practically removes the ban on advertising, and permits architects to place their services before the public in such proper manner as their education and a due regard for their professional dignity might suggest." These references to education, propriety, and professional dignity, appear to have been inserted with the object of softening the blow to the conservative section; for it is hard to see what other purpose they can serve, and there would have been more grace in the tacit assumption that American architects would use their new liberty with the utmost circumspection, if they use it at all. In the report presented by the committee appointed to consider the subject there is a passage worth quoting for the light it sheds on the mood in which the anti-advertising canon was repealed: "Is there any valid reason why," the report asks, "in this age of democratic endeavour, the American Institute of Architects should cling to this or any other relic? Is it not time that we consider carefully, not only the abolition of the canon on advertising, but how many more of the worn out rules, undemocratic distinctions, and un-American assumptions that we can get rid of?" Looked at squarely, the attitude of the professional man with respect to advertising is rather ridiculous. Why is he afraid to advertise? Because the tradesman does it, and the

architect would be ashamed to be seen in such company? No; the architect dare not make that snobbish confession. Well, then, of what is he afraid?—of his brother architects? He may fear the ostentatious austerity of the total abstainer; or he may be still more afraid of the blatant vulgarity of the whole-hogger, who will crush all rivals by illustrating everywhere and every day (including Sundays) the "rotten little cottages" or other brutal buildings which he has devised with a diabolically cunning insight into the psychology of the "profane and vulgar crowd." But he is most afraid—and his fear amounts almost to superstitious dread—of what unimaginable horrors may burst upon him if once the sacred tabu is broken. A gentleman, it has been said, is chiefly distinguished from meaner men by the things he does not do. And nowadays there is only one thing that the professional man does not do—he does not advertise: at least, not with candour and directness.

On the related subject of "signing" buildings, the Institute Convention at which these recommendations were brought forward suspended judgment pending a further report from the committee having the matter in hand. Probably there are some little niceties of detail to settle; for we seem to have a dim recollection that when the great question of "hanging-out a shingle" was raised, some of the "chapters" of the American Institute were minutely particular as to the size, shape, and material of the "shingle," and as to the style of the lettering and the tone of the announcement; "shingle" being in this connection the American for a doorplate or its equivalent. If the practice of signing buildings is allowed, it may perhaps be well to prescribe certain limitations to the privilege; for while the majority of American architects would probably be content to "sign" with two drawing-pins and a visiting-card, there may be others whose ideas soar to illuminated sky-signs, with the architect's name flashing out in three colours on letters three feet tall. Most British architects, we imagine, would rather not sign them: three excellent reasons for abstention being that the design is quite commonly a perversion of the architect's idea by the client or the builder; that even when his design has been faithfully rendered, he is not satisfied with it, and is by no means eager to attach his name to it; and, lastly, he hopes that his work will show progressive improvement, and that therefore the time may come to him, as he knows it has come to others, when one cannot regard one's early work without shuddering.



MAISONNETTES, 35, HARLEY STREET, W.: PLANS.

(See also Supplementary Plate.)



## HERE AND THERE.

IF there had been no war, we might have had a Lyon Playfair centenary celebration. As it is, the occasion has been allowed to pass almost without notice. Yet Playfair's memory should be kept green; for he was a pioneer in sanitation, in education, in scientific training, and in many kinds of social betterment. His biographer, Sir Wemyss Reid reveals that the very first office Playfair held in the service of the State was in connection with that Royal Commission of Inquiry into the Health of Towns "which led to the foundations of sanitary science as we now know it, and which was the first step in the revolution that has changed the conditions of urban life throughout the world." Again, "He threw himself into the battle against dirt and disease with as great an ardour as that which any soldier ever displayed upon the field of battle." He was less fierce in it, however. He believed in bland treatment, and had a most persuasive way with him.

For example: In August, 1843, labour riots were the chief pastime of the poor in Lancashire. When they came to Mercer's mill at Oakenshaw, Playfair offered to parley with the mob, so as to keep Mercer, as the employer of labour, in the background. "I told the rioters," Playfair writes, "that though we had shut the gates of the mill, we knew their force to be irresistible, and were quite sensible that they could stop the works. Instead of going down in crowds, and doing much mischief by their large numbers, they might send a deputation to remove the plugs from the boilers, and thus secure the stoppage of the works with the least damage. They had no objection to this proposal if it did not mean treachery. I offered myself as a hostage, and walked into their midst, while they sent a few of their number to secure the stoppage of the works, and this they did without any permanent damage. During my detention the leaders explained the nature of their demands, many of which were reasonable, and were afterwards conceded." All done by kindness! No doubt the rioters were immensely tickled at the fine courage of the tiny man—Playfair was of diminutive stature, but had a large and powerful-looking head—walking calmly into their midst and arguing the point in a friendly and sensible way. If, among employers, there were more men combining tact, candour, and courage, labour disputes would be rare. "A happy temperament like Playfair's is a precious gift of the good fairies. He was a man rich in sympathy, giving 'loving help in any trouble to those dear to him, and even to strangers. I never, in the whole of my life,' writes one of his children, 'have seen him cross or impatient, or known him speak a harsh word to anyone.'"

His activities were as various as his accomplishments. He was generally regarded as an Admirable Crichton, capable of going anywhere and doing anything, from the testing of domestic drains to the organisation of international exhibitions, from the settlement of labour disputes to investigation of potato disease. "From my first joining the Museum of Economic Geology at Craig's Court," he writes, "till the close of my connection with its developed School of Mines in Jermyn Street, my laboratory was not a haven of rest for a scientific man. Unfortunately, my reputation as an inquirer into public questions continually interfered with my scientific career, for there was scarcely a month in which the Government did not demand my services." As soon as he arrived in London, he was asked to report on the drains at

Buckingham Palace and Eton College. "The condition of the Palace was then so bad that the Government never dared to publish my report. At that time a great main sewer ran through the courtyard, and the whole Palace was in untrapped connection with it." After this inquiry, he was incessantly employed by public departments. The Board of Health required him to report on graveyards, and to analyse all the water proposed for the supply of towns; the Admiralty got him to determine the best coals suited for steam navigation.

Playfair was the first to determine accurately the composition of fire-damp, and his adventures in collecting specimens were sometimes grimly humorous: as thus: "The owner of the mine slowly raised his candle till the flame elongated and a blue flickering of fire-damp burned round its edges. Holding it perfectly steady, he calmly said, 'One inch higher, and you and I would be blown to the devil!' Needless to say that I steadily depressed his arm and retreated as quickly as possible to a purer air." He tells, with a relish, many anecdotes; but it is his biographer who is responsible for this rather indigestible story: "It was while the Prince of Wales was living in Edinburgh as Playfair's pupil that an incident occurred which has already, I believe, been published. The Prince and Playfair were standing near a cauldron containing lead which was boiling at white heat. 'Has your royal highness any faith in science?' said Playfair. 'Certainly,' replied the Prince. Playfair then carefully washed the Prince's hand with ammonia to get rid of any grease that might be on it. 'Will you now place your hand in this boiling metal, and ladle out a portion of it?' he said to his distinguished pupil. 'Do you tell me to do this?' asked the Prince. 'I do,' replied Playfair. The Prince instantly put his hand into the cauldron, and ladled out some of the boiling lead without sustaining any injury." An admirably constructed yarn, of which nobody who is not an example of "high credulity and low intelligence" would believe a single word for a single moment.

Just before the formal opening of the Crystal Palace was due (in 1854), the Prince Consort sent for Playfair, whose advice he wanted in a formidable difficulty. Copies of the world's great statues had been set up, and there was, besides, a considerable ethnographic collection of the effigies of nude savages. Just before the opening, most of the bishops signed a memorial declining to attend the State ceremony unless the nude figures were decorously draped. "I suggested," says Playfair, "that the bishops might be asked for a loan of their aprons during the ceremony." Playfair and Bunsen, in 1844, made an important investigation into the operation of blast furnaces, and established several valuable conclusions, which led to the introduction of great improvements into the staple industry of this country, "although," Playfair adds rather pathetically, "probably the suggestors of them have long been forgotten by the iron trade." It is also commonly forgotten that the organisation of scientific education in this country really began with the Playfair-Bunsen tour; and that Playfair initiated the petroleum industries, was the first secretary of the Science and Art Department, organised the Royal College of Science, conducted a crusade to promote technical education, and did many other things that should have been remembered at the centenary of his birth.

DIODENES.



## THE PLATES.

### *Suggested Improvements to New Street Station, Birmingham.*

THESE plates are reproduced by permission of the author, from Mr. William Haywood's essay on the replanning of Birmingham, of which a more extended notice is given on page 18, where it will be seen that the reform of New Street Railway Station is but one item in an extensive scheme for the replanning of Birmingham on boldly idealistic lines.

### *Maisonnettes, 35, Harley Street, W.*

Plate XL. of the fifth series, illustrating "Current Architecture," shows the Harley Street elevation of a house of maisonnettes designed by Messrs. William and Edward Hunt, and plans are given on page 14. The Harley Street and Queen Anne Street fronts are faced with Portland stone, the former having a little Forest of Dean stone to the main entrance, which has oak doors with bronze fittings. The balconettes are of wrought iron. Internally, the main staircase has plain plaster painted wall surfaces, the stairs, strings, skirtings, and pavings being laid with various marbles, the predominant tone being of white Pentelikon, while green, orange, and grey give contrast in a simple treatment. The entrance doorways to the maisonnettes are of pine and oak, with bronze fittings. A balustrade and the lift gates are of steel and bronze. The maisonnettes have each a direct-lighted hall and corridor. The wall surfaces are in some instances panelled, and all are of plain tones; parquet floors, some French and Dutch tiles and bronze and oxidised silver fittings have been used in the principal rooms. The contractors for the general building work were Messrs. J. W. Falkner and Sons. Mr. John Linehan executed the carvings. The metal work was made by Mr. William Hatton, marble work by Mr. John Tanner. Stoves and some of the tiles were provided by Messrs. Bell Range and Foundry Co. The photograph reproduced on our plate is exhibited in the Royal Academy.

### *Sackville Street Branch of the Hibernian Bank.*

The reconstruction of these premises (for which plans and specifications were prepared by Messrs. William H. Byrne and Son, architects, who are supervising the work) became necessary owing to the fact that the fine building which originally stood on this site and had been for many years used as a branch office by the Hibernian Bank, Ltd., was completely destroyed during the disturbances which took place in Dublin in the Easter Week of 1916. The building could not be re-erected on the original lines, as during recent years the business carried on in this important branch of the bank had grown to such an extent that greatly increased accommodation was required both for the staff and for customers; and as it was found impossible to increase the area of the site to any appreciable extent, the architects were confronted with the necessity of introducing a mezzanine floor or balcony for the accommodation of the staff, leaving more accommodation for the public on the ground floor. The introduction of this mezzanine floor presented many difficulties with regard to the exterior elevation, but it was eventually decided that a building carried out in the modern French style would lend itself as the most happy solution of all the difficulties that had to be overcome. In the basement are two large strong-rooms, a book-room, coal-vaults, heating-chamber, and lavatories. The ground floor and mezzanine floor give accommodation to all the staff and the general public, and on the Sackville Street side is situated the private entrance, with staircase leading to the manager's quarters, which occupy the three upper floors. On the first floor are situated the dining-room, drawing-room, kitchen, scullery, stores, and pantries, all opening off

a large central hall; on the second floor are situated three good family bedrooms, bathroom, and lavatory accommodation; on the top floor are two good servants' rooms, a large family bedroom, a bathroom, and lavatory. As the site is only about 40 ft. square, and is hemmed in on two sides by the adjoining buildings, the question of getting good light and air to all rooms and staircase presented many difficulties which have been overcome satisfactorily. The public offices on the ground floor will be 23 ft. in height, lighted from five large circular-headed windows, and also from six mezzanine windows. The general building contract has been entrusted to Mr. James Kiernan, of Dublin; the steelwork to Messrs. J. and C. McGloughlin, Ltd., of Dublin; the heating to Messrs. Musgrave and Co., Ltd., St. Anne's Works, Belfast; the electric lighting is being carried out by Messrs. Brookes Thomas, Dublin, under the supervision and to the plans and specification of Mr. A. E. Porte, M.I.E.E., of Dawson Street. The Scagliola is being provided and fixed by Messrs. Bellman, Ivey, and Carter.

### *Carved Oak Panel.*

As a remarkably vigorous example of English carving of the sixteenth century, this panel is of intense interest, apart from its subject, which is conjectural.



NEW PREMISES FOR THE HIBERNIAN BANK, LTD.,

SACKVILLE STREET, DUBLIN.

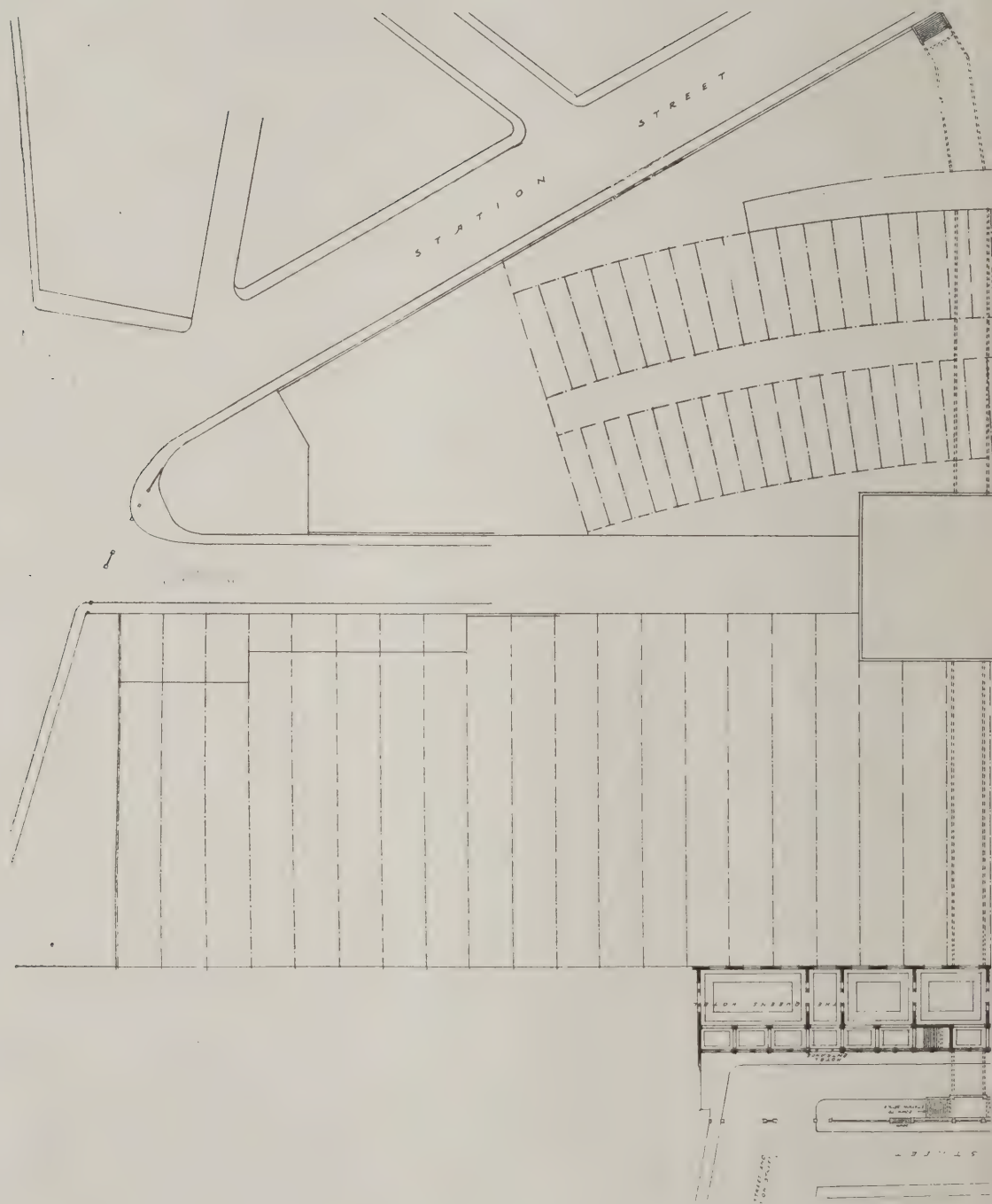
WILLIAM H. BYRNE AND SON, ARCHITECTS.

(See also Supplementary Plate.)





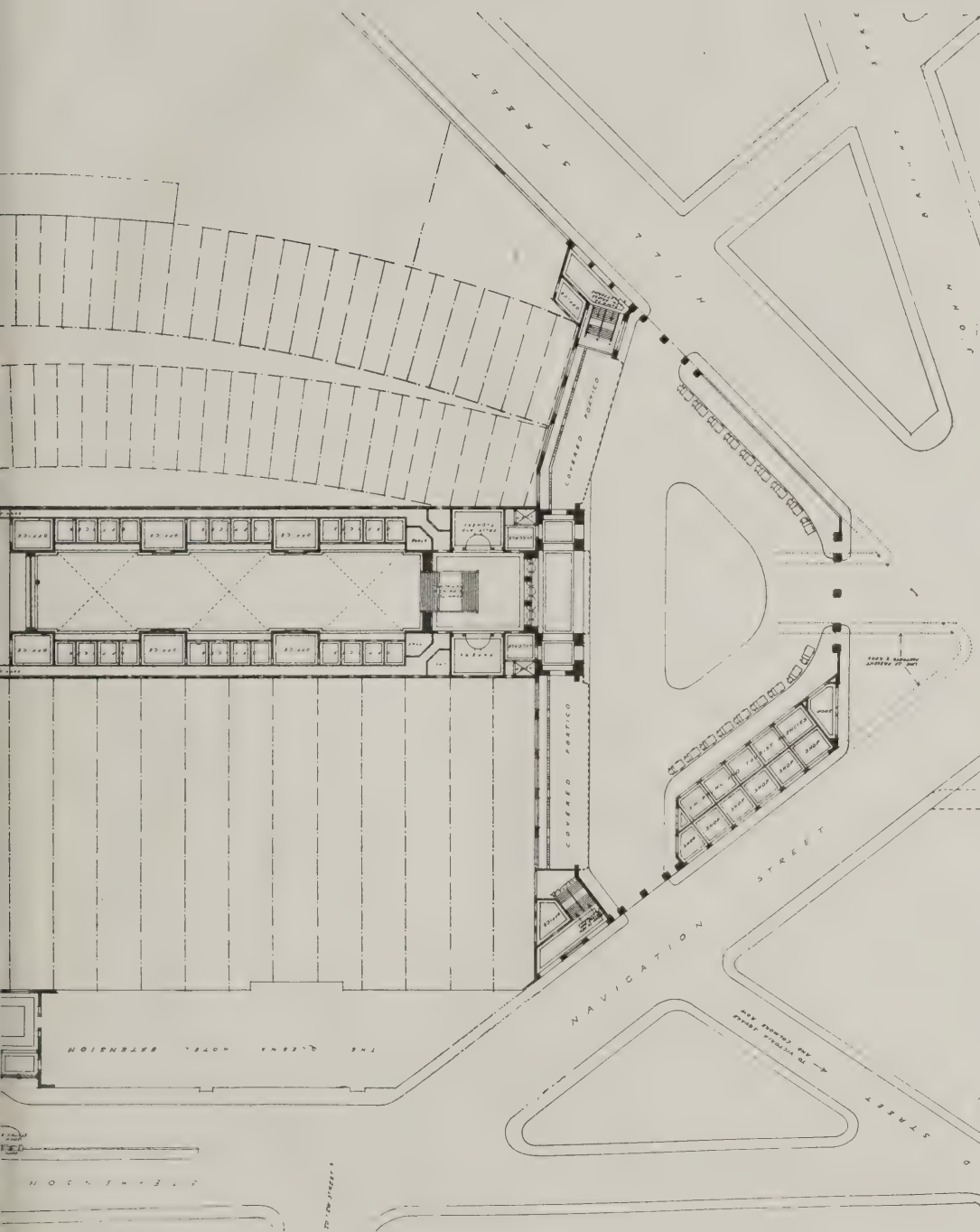




CURRENT ARCHITECTURE (SERIES V.). XXXVIII.—SUGGESTED IMPROVEMENT

WILLIAM HAYWOOD,

(From "The Development of the City of New York")



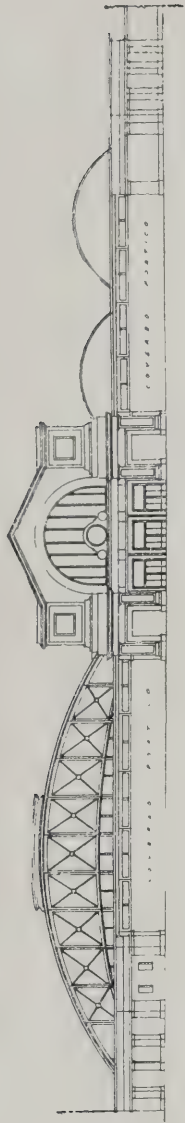
TS TO NEW STREET STATION, BIRMINGHAM: PLAN AT STREET LEVEL.

J.B.A., ARCHITECT.

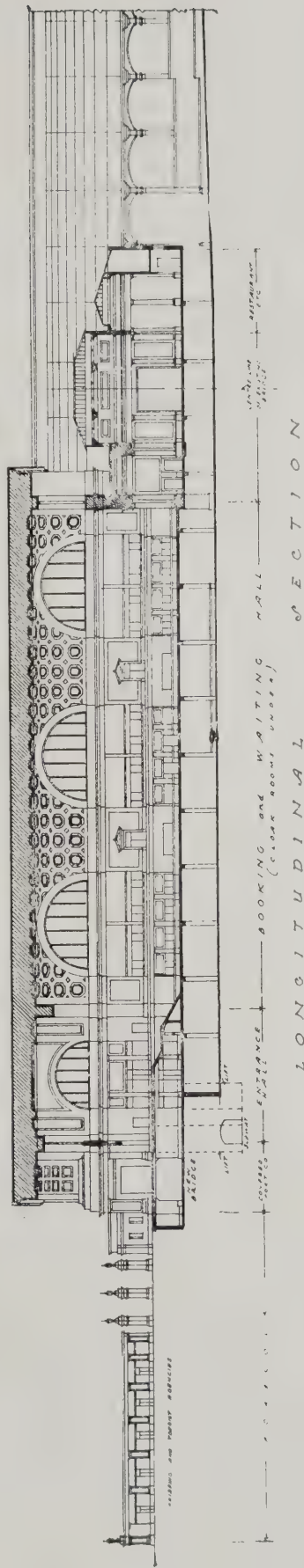
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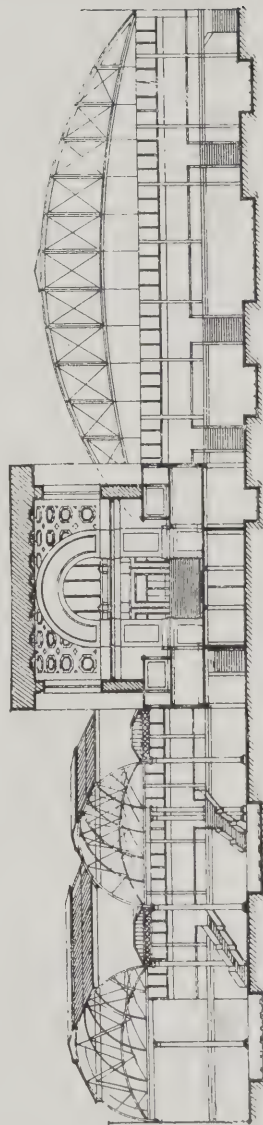




ELEVATION OF FORECOURT



LONGITUDINAL SECTION



TRANSVERSE SECTION  
(Looking towards the New Bridge)

CURRENT ARCHITECTURE (SERIES V.). XXXIX. — SUGGESTED IMPROVEMENTS TO NEW STREET STATION, BIRMINGHAM: ELEVATIONS AND SECTIONS.

WILLIAM HAYWOOD, F.R.I.B.A., ARCHITECT.

(From "The Development of Birmingham.")





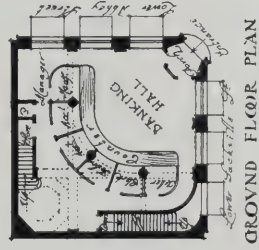


CURRENT ARCHITECTURE (SERIES V.). XL.—MAISONNETTES, 35, HARLEY STREET. LONDON, W.  
WILLIAM AND EDWARD HUNT, FF.R.I.B.A., ARCHITECTS.  
(*Royal Academy Exhibition.*)

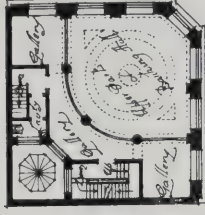




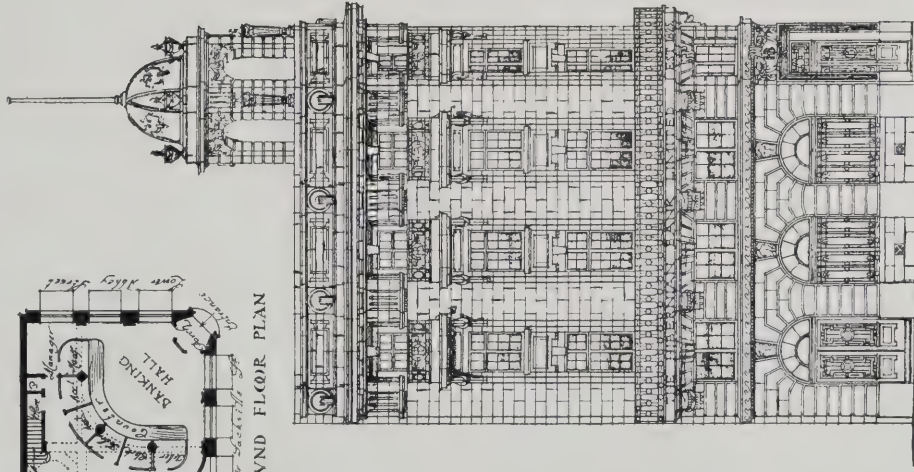
# THE HIBERNIAN BANK LTD SACKVILLE ST BRANCH



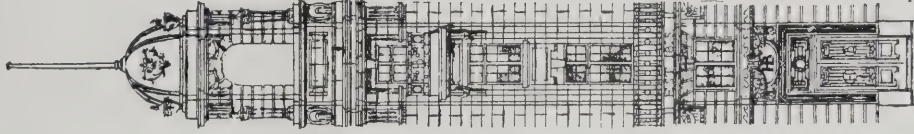
GROUND FLOOR PLAN



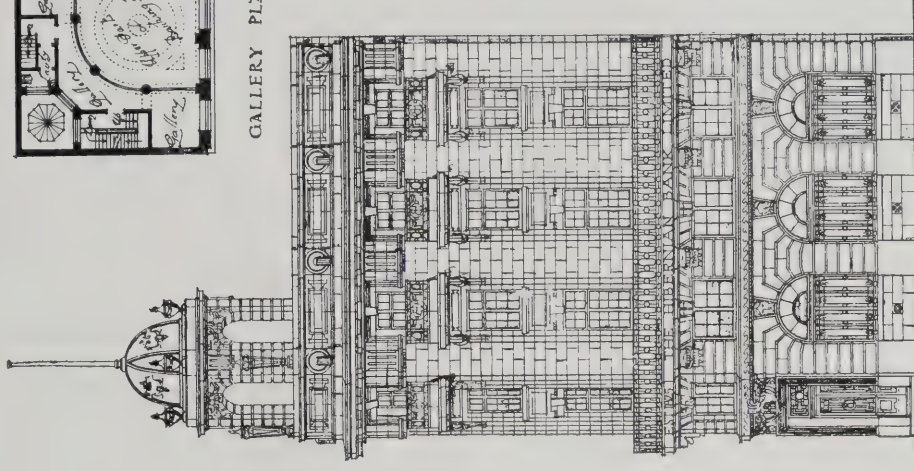
GALLERY PLAN



FRONT TO SACKVILLE ST



ANGLE



FRONT TO ABBEY ST

*H. H. Byrne and Son  
Architects  
Dublin. Est. 1877*

CURRENT ARCHITECTURE (SERIES V.). XLI.—NEW PREMISES FOR THE HIBERNIAN BANK, LTD., SACKVILLE STREET, DUBLIN.

WILLIAM H. BYRNE AND SON, ARCHITECTS.







DETAILS OF CRAFTSMANSHIP (SERIES III.). XXXII.—CARVED OAK PANEL, EARLY SIXTEENTH CENTURY PERIOD (ENGLISH?)  
(Reproduced by courtesy of the Director of the Victoria and Albert Museum.)





## THE PARLOUS POSITION OF THE ARCHITECT.

BY C. H. B. QUENNELL, F.R.I.B.A.

IN one of the best of Kipling's books, "Captains Courageous," there is an amusing sketch of a little "breeze" on the schooner "We're Here." While they are fishing on the Banks, a cattle tramp asks her way, and Disko gives the captain his opinion on those who "go hoggin' the road on the high seas with no blame consideration fer their neighbours." Unfortunately for Disko, his brother-in-law, Uncle Salters, who farms when he does not fish, has to interject a remark on the feeding of steers at sea. This latter affords an excellent opening for the skipper of the cattle boat, who gets his own back heavily with Disko, and in this way is commenced a wrangle which seriously disturbs the calm of all those on the "We're Here." How peace is restored does not concern us here, but in the end, it is "fer the sake o' bearin' an example to these two blame boys of aours," and Dan, one boy, says to Harve, the other, "Didn't I tell you 'twould come araound to us 'fore we'd done?"

Now it looks as if the architects are to be held up as the bad boys of the building trade. We are the villains of the piece. Brothers in affliction, we are being abused, and by a variety of persons, including those of our own kind. We must fall on the enemy without the gate and keep him there, mount the walls and hurl our few remaining possessions at those who would sap the foundations. This pernicious practice of attacking classes of the community as being responsible for the ills from which they suffer must be stopped. It is nearly as unpleasant as the gentle art of making enemies by indulging in personalities.

Now as to what our critics have been saying about us. Mr. Henry R. Aldridge (secretary, National Housing and Town-Planning Council), in the discussion on "Housing" at the Institute, on March 13 last, opened by Professor S. D. Adshead, dealt architects some strong blows. Architects, he said, "should be the intellectual leaders," but we have been "dumb dogs" in the past when the housing needs of the people were being urged; and, again, "the men of culture (architects), who should have acted as an aristocracy and have watched over with deep concern the welfare of the workers in this great industry (the building trade), have developed into a kind of snobocracy." Professor W. R. Lethaby associated himself "with every word Mr. Aldridge said."

Mr. Thos. Foster, President of the North-Western Federation of Building Trades Employers, in his letter published in THE ARCHITECTS' AND BUILDERS' JOURNAL for June 26, talking of the architect, says: "Until he shows some disposition to come down from his pedestal of professional aloofness and interests himself in the point of view of the builder and workman, you cannot expect the latter to intrude where all past experience has told them they were not wanted."

Mr. Foster, like Mr. Aldridge, thinks of us as a snobocracy. But there can be no doubt of the genuineness of all the criticism levelled at us, and that it is really sincere, and symptomatic of the universal desire to improve matters. Our main concern must be to help, by seeing if we deserve the strictures levelled at us, and not decline to serve as whipping boys if we deserve chastisement. But it may be that we are not active villains; our measure of responsibility may not be greater than that we are cogs in an abominable system which we, like all our fellows, have condoned.

Taking Mr. Aldridge's criticism first, that architects have not been sufficiently interested in housing, surely this is not fair, because, as Professor Adshead pointed out, "we have it on reliable authority that over 90 per cent. of the plans for working-class houses submitted to local authorities for their approval have not been

prepared by architects," and as Mr. W. S. Purchon said at the same meeting, "The architect is still sadly misunderstood by the public. He has designed an absurdly small proportion of our present houses, and he is condemned for the defects of those he has not designed." To say that architects are not interested in housing is to neglect all the spade work which has been done by all the men since the days of Norman Shaw at Bedford Park. The late George Sherrin used to say that enough small houses to do would kill any architect; and when one thinks of all those who have struggled along doing this sort of work, for the poorest reward, it is a little difficult to deal temperately with such unkindly criticism as Mr. Aldridge's. Take the case of an architect who in pre-war days built, say, half a dozen labourers' cottages at a cost of, say, £200 each. Survey of site, sketch plans, working drawings—all the procedure of a £20,000 contract. Endless time spent in contriving ways and means to cut down cost without reducing accommodation. Say a couple of months' work before signing the contract, six for building, another six for maintenance; at the end of, say, fifteen months the architect has a reward of £60 gross, less 1-3rd for rent and expenses, say £40 profit. Sherrin was right—such work is philanthropy at 5 per cent.

Mr. Aldridge suggests that we are "dumb dogs," but how are we to become more vocal? Are we to insist that the local authorities employ us, or join the Labour Party? The latter would be better fun.

And then as to being snobs. Well, our tails are down rather badly, and it only remains to accuse us of being war profiteers.

The truth of the matter is that architects, even before the war, were being forced by the stress of modern conditions into a position in which it was difficult to maintain a feeling of honesty.

The law in England, which is wholly conceived in the interest of the property owner, or landlord, makes the architect responsible for the creation of value. We may flatter ourselves that we are artists, but the client thinks of us as policemen, and if in his judgment he has not received value for his money, then he can bring an action against us. The architect, then, has to pretend that he knows far more than is possible to any one man. Our friend whom we have used as an example in designing six cottages, and receiving at the end of fifteen months £40 profit, shoulders as well the responsibility that if they fall down he will be held liable. In the old days building was a comparatively simple business, possible for one man to do, but of late years the very reverse has come to be the case. In its skeleton it may be steel framed, or of reinforced concrete; in its finishing and fittings it may include elaborate heating and lighting systems; be fitted with telephones and vacuum cleaners, and its various floors reached by automatic electric lifts. It may be constructed of materials gathered from all over the globe, and include the work of every known trade, and the law steps in and says, "If you take 5 per cent. on its value you are responsible, and must pretend that you know all about it: we are not concerned with whether you do or do not, but we must have somebody to shoot at."

Very much the same state of affairs had come to be the case in the engineering world; rapid development and expansion of knowledge first turned the consulting engineer into a specialist and then extinguished him. The big men in Westminster have gone, and their place is taken by the large contracting corporations who have their own staff of specialists.

If Mr. Aldridge had accused us of being quacks he



would have been nearer the mark than when he called us snobbish. Certain it is that the present position of the profession is a very dangerous one, and the fate of the consulting engineer is worth examining. His failure was owing to the fact that he did not respond to modern conditions. A town in South America, for example, can obtain a complete scheme for docks, say, from one of the large contractors, and prefers dealing with a concern with a capital of a million or so; clients may pay more, but have the feeling that they have more security for receiving value.

As we have seen, much the same thing is happening in architecture, and even before the war there was a tendency for the contractors and specialists to design works themselves. For the sake of appearances the reinforced concrete designers talk of anxiety to work with architects, but in reality, and quite rightly so, they wish to administer to us the *coup de grâce* for a very large range of work which has quite clearly passed beyond us. The American architect has grappled with the problem, and not allowed himself to be submerged by it, and his method has been to organise on proper business lines. The offices of some of the leading American architects are, of course, on a scale quite unknown in this country, and include specialists able to undertake any type of work. Fine libraries to help the assistants, and shall we say a well-organised intelligence department to bring them a steady stream of work to do, have produced some magnificent building. American architects, though, are helped by the fact that all the citizens are keen on improvements, and anxious that their own towns should be as presentable as possible. The writer remembers a talk with Mr. Burnham, at the Town Planning Congress, when he said that in the States every town had its Citizens' Committee, keenly interested in going one better than their neighbours. But we do not live in America, and have to do with a people who are not really interested in the amenities; one means by this the large mass of the people, not the enthusiasts, or politicians engaged in window dressing.

If the building contractor cares to come forward and tackle cottage work as he has been doing war-building, then we shall find ourselves in a tight corner; and all this talk of standard plans tends to that end. If we take the work which has been done during the war—and probably more building of sorts has been done in England since 1914 than in the fourteen years preceding—architects have done hardly any of it. Contractors have prepared plans and details, and have carried out the work, and men of our profession are in many cases in sore straits. First-rate men of good position have been sweated in the Government offices for an average wage of about three guineas a week; that is less than has been paid to the *unskilled* men in the building trade, which was stated by Mr. S. B. Depree in THE ARCHITECTS' AND BUILDERS' JOURNAL for June 12, to be £4 10s. per week. Had we but joined the Bricklayers' Union and served them as faithfully as we have the Institute, we should not have been deserted in our extremity.

Dismal facts of this sort are not hopeful, especially when coupled with unmerited censure. No good end is served by calling one another names. Our job is to unite for propaganda and be prepared to fight. It is quite wrong that an elderly F.R.I.B.A. should be so forlorn that of necessity he has no alternative but to accept three guineas a week. We want a new set of leaders, who are more intimately concerned with the interests of the profession.

## REPLANNING BIRMINGHAM.

THERE has been recently issued a book (impression strictly limited) entitled "The Development of Birmingham: An Essay. With Designs and Drawings by William Haywood, F.R.I.B.A., and an introduction by Neville Chamberlain, J.P." As Mr. Chamberlain says, the book is full of new and even startling suggestions, and though the bold and original ideas it sets forth may not meet with immediate general acceptance, they point the way to a higher conception of civic dignity and civic responsibility; nor will it be denied that, as Mr. Chamberlain remarks, the plans are worked out with so much ingenuity and imagination that they "cannot fail to have a profound influence on the minds of those who control our civic destinies."

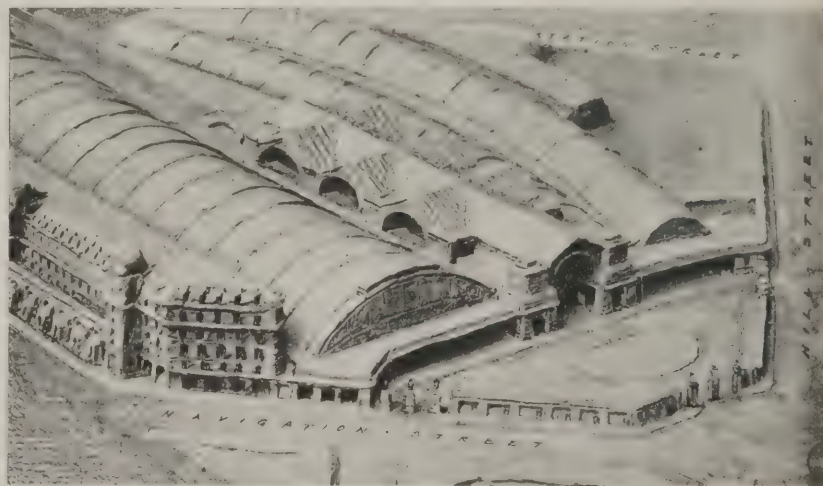
Mr. Haywood's scheme includes the provision of a town centre, which he places at the lower end of Broad Street; a new set of municipal offices; a careful development of New Street station; and a project for a civic recreation-hall and for the adaptation of Rotton Park Reservoir as pleasure-grounds and zoological gardens.

By courtesy of the author, we show, in our supplementary plates and on page 19, a few illustrations selected from the thirty or more—many of them printed in colours—contained in the book.

The proposal for a new road and improvements round New Street station, of which we reproduce the plan, comprises a new road from Stephenson's Place to Hurst Street, which is obviously a perfect solution for the existing congestion on the station footbridge, and, at the same time, a much needed extension of the Corporation Street route beyond the present cul-de-sac.

Commencing at New Street, where a slight easement to one corner of Corporation Street is made to give better alignment with the new thoroughfare, Stephenson Place is left untouched, except that an obstructive statue and convenience are removed. Then from the Queen's Hotel, the new road is cut direct for the intersection of Station Street and Hurst Street, at a gradient of one in eighty until within seventy yards of the station boundary, when it changes to about one in twenty, in order to clear the last of the Midland Co.'s tracks.

The new road is practically confined to the station area, and offers the railway authorities the advantage of relief from the present bridge congestion, another excellent approach to the station, and a general improvement to the locality, which would at once add to the value of the Hill Street and



A BIRD'S-EYE VIEW OF THE NEW STREET STATION SCHEME.

(From "The Development of Birmingham.")



Station Street frontages as building sites. If adopted in conjunction with, or as likely to follow, the station scheme discussed in a previous chapter in the book, it would be necessary to omit the Entrance Hall of that design, and enter the Main Booking Hall direct from the Loggia, an alteration which, it is believed, would, while appreciably reducing the cost of that section of the scheme, be equally satisfactory.

"This is the road at its simplest; but there is an alternative continuation which may be mentioned. It would be possible, for instance, to maintain the 408 level, and to pass the road intersection by means of a bridge continued through the block opposite and so falling by one in thirty-six to the circus at Bristol Street; this would give a still better gradient, and also bye-pass a great deal of traffic—sometimes thought to be desirable—there would also be the creation of considerably more street frontage. But, on the other hand, this extension would be more expensive, and Station Street, Hill Street, and Hurst Street would be cut off from direct access to the new road; from which it would appear that the smaller scheme is preferable.

"The improvements shown on this plan may be briefly indicated. A circus is shown at the junction of Smallbrook Street and Bristol Street, leaving an island site suitable for a public building; another island site, facing Hill Street and the proposed station place, is suggested for an Exchange or a Chamber of Commerce; and between John Bright Street and Suffolk Street is another detached area which is suggested for the new Prince of Wales Theatre displaced from Broad Street. Wherever possible, fully detached sites, such as these, should be given to buildings in which fire risks are most to be feared, and especially to theatres.

"It is proposed to close Old Meeting Street, as it apparently serves no useful purpose, and interferes with the erection of buildings of a decent character, and the widening of Holloway Head, the closing of Pinfold Street, and the use of the present railway areas at the bottom of Hill Street as building sites, are all dealt with on sectional plans."

Dealing with the approach from the station to the Town Hall, Mr. Haywood remarks:

"An important circumstance in this locality is the fact that on arrival by train a first impression of the City is obtained on issuing from the station precincts, and the pride of the city is concerned that this impression should be a creditable one; therefore, the station itself having been already dealt with, it now remains to open out a prospect which shall serve as a suitable introduction to the town.

"No great difficulty presents itself in forming a Station Place, with a good approach, either from Suffolk Street in the one direction, or from New Street in the other, and there is ample room for the formation of quite a fine area in which to circulate the usual traffic appertaining to the approaches of a railway station.

But the remaining portion of the scheme, from the Station Place to the Town Hall, is frankly an appeal to civic pride; for although it is true that a better accommodation for traffic is obtained, and that this is very desirable, there are not here the same practical claims that may be urged for the road adjustments which have been proposed elsewhere, and in this respect there is a departure from the conditions so far adhered to, namely, to obtain what beauty is possible from convenience, and not to seek it for its own sake. Not that beauty fails to give an ample return for money wisely expended upon it, but if, as a people, we have not yet learned to regard such expenditure as profitable, it is perhaps advisable to attempt only the more reasonable programme of getting the maximum amount of beauty out of our necessities."

The graphic presentment of this fine scheme shows Mr. Haywood not only as a skilful draughtsman, but, even more markedly, as the possessor of civic sense and imaginative vision in no ordinary degree. His book, indeed, is a valuable accession to the literature of town-planning, and our one regret about it is that its issue is limited.



PLAN OF A NEW ROAD AND IMPROVEMENTS ROUND NEW STREET STATION.

(From "The Development of Birmingham.")





## WAR BUILDINGS SECTION

### QUICK-DRYING METHODS FOR FACTORIES AND MUNITION WORKS.

IN a great many textile industries, and in munition works, some form of drying apparatus is required to deal with large quantities of articles quickly. For example, in the paper industry large

quantities of cardboard require to be dried: preserve manufacturers and sugar refiners must have drying facilities for their filter cloths; and in munition establishments, especially where the workers

require to operate out of doors, their overalls and oilskins must be dried quickly when the weather is inclement. Laundries dealing with ships' washing, where a very large quantity of material has



MECHANICAL DRYING MACHINE.



to be rushed through and delivered on short notice, must have the most modern and quick-drying facilities, otherwise the whole of their work would be hampered.

The apparatus here shown, known as the continuous drying machine, has been specially designed to fulfil these requirements, and is a most satisfactory means of mechanical drying. This apparatus is extremely simple in design, and consists of a wooden "housing" built in three sections bolted together, and with a canopy overhead. Inside this wood housing there is a heating apparatus of wrought iron steam coils suitable for either live or exhaust steam, providing about 300 sq. ft. of heating surface, with a belt-driven steel plate fan driving the heated air into the chamber. In addition the air is kept in circulation by means of two belt-driven propeller-type ventilating fans, fixed overhead under the canopy, and driven from countershaft on roof. The apparatus for carrying the articles that are being dried consists of metal clips attached to wood spars carried on endless chains running on a roller at each end of the machine; a hand-wheel fixed at the loading end operates the travelling gear. In this way a load of articles hanging on the clips passes slowly through the chamber, which is heated to a uniform temperature of 150 deg. Fah., the articles being discharged at the opposite end of the machine by automatic release from the clips. The wooden housing is provided with suitable doors for access, and is built in a variety of sizes, the most popular being 15 ft. by 9 ft. and 20 ft. by 9 ft.

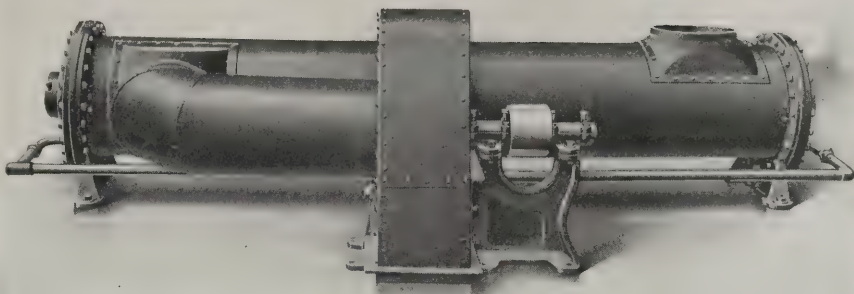
With regard to capacity, about 200 small ships' blankets can be dried in the larger size of machine in one hour at a speed of about 1.4 ft. per minute, but lighter cotton articles can go through very much

quicker. Cardboard, bags, filter cloths, and carpets can be dried "still"—that is to say, the clutch of the conveyer is knocked out and the material is left stationary on the clips. Carpets take at least two hours to dry, as, owing to their bulk, the loose water cannot be extracted in a machine for that purpose, and they are hung up in the chamber in a very wet state.

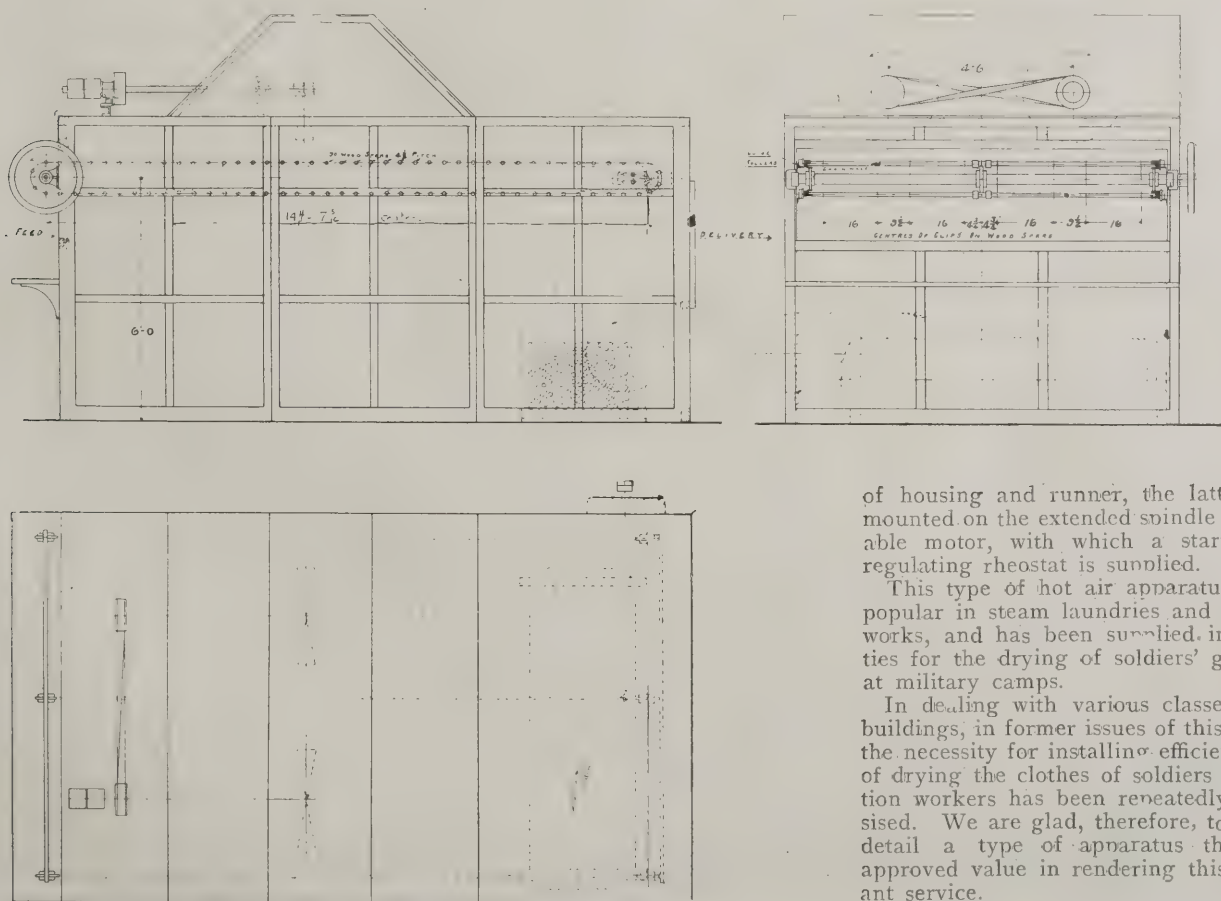
In certain processes of leather manufacture the drying of the hides is essential. That is carried out in much larger chambers than that above described, so that the mechanical element is not introduced. For this purpose, and also for the drying of large and heavy goods, the hot-blast apparatus illustrated above is more suitable, as it can be made in sizes to provide any desired temperature. The hot-blast apparatus consists of a cylindrical air-heater made from 5 ft. to 20 ft. long by 18 in. to 4 ft. diameter. The

outer casing is of steel plate fitted internally with a battery of  $1\frac{1}{2}$ -in. solid drawn steel boiler tubes expanded into mild steel tube plates and made perfectly steam-tight. The end plates of the heater are flanged and dished to a spherical form, and bolted and jointed to the heater body, which is arranged to work either with live or exhaust steam at a pressure of 30 lb. per sq. in. Inside the heater body are arranged a number of baffle-plates, the purpose of which is to draw the air over the heated tubes in a spiral manner, and break it up before it is discharged into the chamber by the fan hereafter referred to. The fittings required on the heater are a steam stop valve, a safety and reducing valve, and a steam trap.

The fan utilised for blowing in the hot air is coupled direct to the heater, and varies in size according to the volume of air it is called upon to handle. It is of the steel plate exhausting type, consisting



HOT-BLAST APPARATUS.



SECTIONS OF MECHANICAL DRYING MACHINE.

of housing and runner, the latter being mounted on the extended spindle of a suitable motor, with which a starting and regulating rheostat is supplied.

This type of hot air apparatus is very popular in steam laundries and munition works, and has been supplied in quantities for the drying of soldiers' greatcoats at military camps.

In dealing with various classes of war buildings, in former issues of this Journal, the necessity for installing efficient means of drying the clothes of soldiers or munition workers has been repeatedly emphasised. We are glad, therefore, to show in detail a type of apparatus that is of approved value in rendering this important service.



## MINOR THINGS THAT MATTER IN BUILDING.

Whether you build your house of stone or stucco, brick or wood, says Mr. Aymar Embury, there are certain matters more prosaic and less fascinating than the designing of plans and the choice of the principal materials, but which must be properly understood if the house is to be built with intelligent economy and to be, after it is built, truly livable.

I do not believe there is any branch of building construction which is so little understood technically as the question of paint. The manufacturers furnish reports of test so at variance that it is almost impossible to arrive at any just conclusion on the subject. It is perhaps fair to say that any of the high-class and reputable firms who make ready-made paints produce at least one grade which, regardless of the constituents of which it is composed, is durable, will hold its colour, and will not peel or blister, if properly applied. On the other hand, the common custom is to mix the paints at the job, and I cannot advise too great care in overseeing this part of the work to make sure that constituents of good quality are used.

Paint is composed of two separate elements, one the medium, the other the pigment, and the materials most commonly employed for these two purposes are raw linseed oil and white lead. If the linseed oil is of good quality, the white lead thoroughly divided and well mixed into it, and if the job can dry without being covered with dust and dirt, a fairly durable coating will result.

But as one can never depend upon the weather, it is usually necessary to add some volatile oil, such as turpentine, to make the paint dry more quickly, and this tends inevitably to lower the quality of the work, especially if too much is used. Many good painters recommend the use of a little ground white zinc with the white lead, and zinc will probably make the paint hold its colour somewhat better, since white lead and oil used alone have a tendency to turn yellow. White lead and zinc together, mixed in oil and turpentine, are probably the best things to use for interior work. Most coloured paints are made by mixing ground colours with the white lead and white zinc. There are very few, if any, which will not fade, so in determining the colours to be used one must allow for a certain amount of fading.

Our ancestors had only a few colours, all of which had metal bases: white lead (carbonate of lead) and white zinc (zinc oxide) for white; lead oxide for red, the old red barn; and copper and arsenic oxides for green, this latter being the well-known "Paris" green. The beautiful green blinds which we see on the old farm-houses were painted with this "Paris" green, which when it is first applied is the rawest, greenest green imaginable, but fades into quiet lovely tones. As the process takes time, we now mix our paint at the beginning to match the colours to which the old work has faded, and, if the right colours are not used, we find after a few years, perhaps after a few months, that the effect has been lost and that we must repaint. Most good painters, however, have a fair knowledge of what is going to happen to paints, although they may have no idea of the chemical processes which take place. I would advise, therefore, that the painter be given samples of the colours which it is desired to obtain and be permitted to use his discretion in mixing the paint, so that after the preliminary fading process has taken place

these will be the colours of the house through a long period. One thing should be remembered in this respect; samples are very deceptive. It is best to see a house which has the proper colours and then make the samples at that house, when it will be found that small samples do not apparently resemble the large surfaces which they actually match.

There is probably no one point about the house, unless it be the painting, which gives more trouble than the plaster. One is for ever having plaster crack, sometimes it falls off, and one invariably hears after such an occurrence that the plastering work was poor. This is not by any means invariably the cause. Cracks in plaster arise more commonly from the shrinkage or swelling of the material to which it is applied than from defects in the plaster work itself, and where plaster falls off it is usually because the lath has been spaced either too close or too far apart, although sometimes a poor grade of plaster may be the cause. It is probably better to use metal lath for plastering than wood lath, although the metal transmits sound and heat more freely than the wood, and this same point, the tendency of transmission of sound and heat, is perhaps the most important in considering what type of plaster to specify.

Old-fashioned plaster is made of lime, sand, and hair. If the lime is properly slaked and of good quality, an excellent result can be obtained, but since the lime is frequently insufficiently slaked and continues to slake after it is put in the walls, causing cracks or pits in the plaster surface and burning out the hair, the patent plasters are the safest.

Patent plasters are of two kinds: the hard plasters and the pulp plasters. The hard plasters are, in some ways the most satisfactory, because the plaster work can be executed more quickly, straighter, and perhaps with fewer chances for mistakes in workmanship than with the pulp plaster. On the other hand, hard plaster is a wonderful sound distributor and is so brittle that if a nail is driven into it the surrounding wall is broken. Pulp plaster is not quite as good a sound conductor as hard plaster, which means that the house is quieter. Though harder to work, good mechanics can produce smooth and even walls and ceilings with it, and, after it is finished, one can drive nails into it anywhere without breaking it.

I do not venture to recommend any one of these three types. Though I commonly use the pulp plaster in my own practice, I go back to the old-fashioned kind if I discover that my clients are nervous about noise, or I use the hard plaster if the pulp plaster cannot readily be obtained or if I am doubtful about the quality of the mechanics who are to apply it.

The materials for roofs remain about what they always have been: shingles, slate, and tile, although with the past few years pressed asbestos shingles have been made, of agreeable colour, and apparently durable. The only fault to be found with the asbestos shingle is its thinness, which tends to give a completed roof the appearance of a sheet of paper upon which lines have been ruled. Shingles, of course, come in a variety of sizes and can be laid in a variety of ways and coloured to suit one's wishes. A shingle roof is watertight, at least for the first ten or fifteen years of its life, but it is not permanent. The old hand-riven white pine shingles were about as durable as slate or tile, but the modern sawn red or white cedar shingles are, after all, more or less temporary, and anyone putting on a shingle

roof must expect to replace it after fifteen or eighteen years. A shingle roof is also liable to become ignited from a chimney fire or from brands which find lodgment upon it. On the whole, where price will permit, it is probably better to use a slate or a tile roof.

Even the strictest economy in the use of lumber will not make a very tremendous saving in the cost of a house, since there are very many parts of the building where no such saving in lumber can be made, but the careful owner and the careful architect can save perhaps five per cent. of the total cost by thoughtfulness in these items.

Lumber comes sawn in even lengths of feet. Twelve, fourteen, sixteen, and eighteen are the usual lengths which are carried everywhere in stock, and as one has to allow about 6 in. on each end of the floor beam to support it on the work below, if one desires to economise in a very sensible way, the stock sizes of beams will naturally be selected. Now these stock sizes were originally determined by what widths could properly be spanned by beams of certain sizes, and it has been found by experiment that beams 2 in. in width and 8 in. deep can be used over a span of 13 ft., and beams 2 in. wide by 12 in. deep over a span of 17 ft., without the floors sagging or feeling shaky. When one lays out rooms which have to be spanned by heavier beams than these the price instantly mounts, and where economy is to be considered, as is almost invariably the case, the careful architect and house builder will begin at this point, since there is not much difference between the comfort of rooms 13 and 14 ft. in width, and there is a considerable difference in the cost of the framing timber.

And, finally, I cannot repeat too strongly that no house, of whatever material it be made, should be built without an architect, and that the choice of an architect should be made with the utmost care and discrimination.

## BOOK NOTICE.

### *An Interesting London Estate.*

Mr. John Slater, as Surveyor to the Berners Estate, St. Marylebone, in writing a monograph on the estate, has fulfilled what he must have recognised as a moral obligation. If all who have similar opportunities would turn them to equally good account, there would be a huge accession to the public stock of topographical knowledge and interest. Mr. Slater, however, is exceptionally fortunate in having to deal with an estate that has been kept almost entire from the date of its formation, and the documents relating to which have been preserved in a complete series.

Two plans of the Berners Estate in London, of which the present owner is Mr. Charles Hugh Berners, of Woolverstone Park, Ipswich, show a roughly rectangular block, comprising about twenty-five acres on the north side of Oxford Street, from which it runs north-westwards as far as Union Street, "and includes the north side of Oxford Street, from and including Perry's Place to the east side of Wells Street, the whole of Berners Street and Newman Street, the east side of Wells Street, both sides of Mortimer Street between Wells Street and Newman Street and of Goodge Street up to the parish boundary, the whole of Nassau Street, the south side of Union Street, both sides of Cleveland Street from Goodge Street to Tottenham Street, and



a narrow strip running from Union Street to the Marylebone Road, forming the west side of Cleveland Street."

Up to 1546, the estate had pertained to the old leper hospital of St. Giles, which, founded in 1101 by Matilda, daughter of Malcolm King of Scotland and wife of Henry I., was dissolved in 1539, and bestowed by Henry VIII. in 1545 on John Dudley, who, like his father, was eventually executed on Tower Hill. One of his sons was Guilford Dudley, husband of Lady Jane Grey. This John Dudley, Viscount Lisle, sold the St. Giles property in 1546 to Wymond Carew. In 1563 the property was sold to Francis Downes. After changing hands several other times, the property came into possession of Josias Berners in 1654, when, as Mr. Slater tells us, the estate was simply a country farm, the fields running right up to Oxford Street, which was then called Tyburn Road, forming part of the great Roman east-to-west road called the *Via Trinovantica*. Mr. Slater gives us a vivid description: "What is now Oxford Street was a lonely country road, bordered by fields, full of sloughs and ruts, with no houses fronting it and only an occasional low-class public-house a little way back from the road, the resort of footpads and all sorts of bad characters. The remains of the earthen barricades which had been thrown up across the road during the Civil War could still be seen. West of what is now Oxford Circus the road sloped steeply down to a wooden bridge, only 15 ft. wide, over the brawling Ty-bourne; and close to the bridge on the north side were the stocks, the pound for strayed cattle, and the Lord Mayor's Banqueting House, which stood back from the road in an enclosed field. Here were several conduit heads, under the control of the City Corporation, as the water supply for the city largely came from the Tyburn springs until the completion of the New River. Beyond the Banqueting House the road sloped upwards to the corner of the Edgware Road, which was part of the great Roman north-to-south road called Watling Street. At the junction of these two roads—close to where the Marble Arch now stands—was Tyburn Tree." Much more about the district when Marylebone Fields were the resort of footpads and the scene of many murders, and when the fox and the hare were hunted in Marylebone Park, is related by the author of the monograph, who, of course, duly traces the descent of the Berners Estate to successive members of the family.

Although the rent of a single shop in Oxford Street to-day would more than cover the price paid for the whole estate by the Berners who purchased it, all the rents are not on the same scale. In some cases, the early lease could be renewed perpetually at the original rent; consequently, as late as 1912, leases for three buildings with extensive warehouses had to be granted for ninety-nine years at total rentals of fourteen pounds!

Distinguished persons have lived on the Berners Estate. Sir William Chambers lived at No. 13, Berners Street, from 1774 to 1786; and the same house was occupied later by Henry Fuseli. General Sir Eyre Coote lived from 1773 to 1784 in the same street, where also lived, at No. 70, Samuel Taylor Coleridge, who was here from 1812 to 1816, the guest of his friends the Morgans. In Newman Street lived Benjamin West, John Bacon, Thomas Stothard. At No. 7, Charles Street (now No. 6, Mortimer Street), lived F. M. Newton, one of the founders of the Royal Academy, who was succeeded in the

tenancy by Joseph Nollekens. Mrs. Anna Jameson, who wrote much on art, was for some years tenant of No. 7, Mortimer Street. Several other celebrities, and at least one notoriety, are named by Mr. Slater, who fairly earns our sincere expression of thanks for what he calls this "little cameo cut out of English history." We trust that his example in producing it may encourage others who have access to similar information.

"A Short History of the Berners Estate, St. Marylebone." By John Slater, F.R.I.B.A., Surveyor of the Estate.

## MAKING BRICKS FROM COLLIERY REFUSE.

Wrenthorpe Brick Works, owned by the Low Laithes Colliery Co., Ltd., and adjoining their Wrenthorpe Colliery, Wakefield, are, it is believed, the first of their kind in this country, and are of particular interest as demonstrating under a given set of conditions a practical method of turning colliery refuse to commercial account.

The colliery (says a writer in the "Iron and Coal Trades Review") was making about 400 to 500 tons of belt pickings and washer dirt per week. The pit heap, with a few years' accumulation, was already on fire, and as the pit is situated in a residential district it was naturally the source of a considerable amount of annoyance which called for serious consideration. Burning seemed to offer the only solution, and it was decided to put down a destructor. This, however, finally resolved itself into a boiler installation, which to-day supplies all the steam required to drive the colliery plant.

The problem of burning the waste having been satisfactorily solved, the company were soon called upon to face further difficulty. After the plant had been working for a few months, it became evident that the burning heap was simply being transferred from the front to the back of the destructors, as the rapidly increasing clinker heap commenced to burn and gave off sulphurous fumes as objectionable as those from the old pit heap. To get over this trouble an experimental plant consisting of a 7-ft. grinding pan was put down near the burning clinker heap, and the clinker reduced to sand for use in concrete, building, etc. It was, however, impossible to find a market for anything like the quantity made, and eventually a scheme of brick-making was decided upon. To this end samples of the clinker were tested in the laboratory of Messrs. Sutcliffe, Speakman, and Co., Ltd., Leigh, Lancs, who have specialised in lime-sand brick-making machinery, and who have also put down a successful lime-clinker brick plant in France, in which town's refuse clinker is employed.

As a result of Messrs. Sutcliffe, Speakman's report, it was decided to put down a fairly large experimental plant, which later was remodelled and extended. The clinker from the stack is loaded into trams and conveyed by rope haulage to a Bradley and Craven edge runner mill, in which it is ground and then raised by the elevator into the rotary screen, which is fitted with  $\frac{3}{8}$ -in. mesh plates, the through material falling down the chute underneath the screen into the hopper over the automatic feeder, the over material being returned to the mill for re-grinding. The automatic feeder is composed of a short vertical tube 36 in. in diameter by 24 in. high, which is held stationary, having a

rectangular aperture in the bottom side, to which is fixed a scraper, a rising and falling door, and a circular base which is caused to revolve. The material falling upon this revolving base is carried round, and by means of a scraper brought to and discharged from the feeder, through the aperture, the quantity delivered being regulated by lifting or lowering the door.

Buxton lime waste is employed, and this is passed through a Schultess rotary lime slaker installed in the lime stores. The slaked lime is raised by the elevator and dumped into the large hopper. At the foot of the hopper is a lime-measuring drum fitted with pockets, which can be regulated according to the percentage of lime required to be used (approximately 8 per cent.), the measured quantity of lime being delivered to the boot of the elevator which feeds the top pan of the double-deck mixing and tempering mill. It will thus be seen that the ashes and lime can be regulated respectively by the automatic feeder and the measuring drum, thus ensuring the correct mixture being regularly and automatically delivered to the mill. The latter is fitted with a number of stirrers, which mix the material and at the same time about 20 per cent. of water is added in the form of a fine spray, from sprayers which travel round with the scraper arms. After being thoroughly ground and mixed, the material passes into the feeding-pan of a patent "Emperor" press of the rotating-table type, with pressing mechanism of the toggle-lever type. The moulds are arranged in pairs, so that two bricks are pressed at one time and simultaneously two bricks are ejected. The table has fourteen moulds. The liners are very easily renewed, and the whole press is massively designed.

The mixed and tempered material falls from the mill into the feed-pan fixed on to and above the rotating table of the press. A portion of the bottom of the feed-pan is cut away so as to allow the material to fall into the moulds as the table rotates; the pan is also provided with rotary scrapers which ensure the moulds being fed regularly and constantly. The full moulds are rotated under the pressing mechanism, a total pressure of 200 tons being given, and at the same time that the bricks are pressed the pair preceding them are projected by means of a strong cam motion. After the bricks have been ejected, the plungers are held up by catches, to allow of the bricks being removed, and are automatically tripped before again coming under the feed-pan. The output of the press is from 20,000 to 24,000 bricks per day of ten hours.

The bricks coming from the press are stacked on cast-iron plates which rest on special lifting wagons. Two of these wagons are carried on a double transfer car, placed in front of the press and running upon a track sunk into the floor so as to bring the top of the car to the same level as the press-shop floor. As each plate is filled with bricks the wagon carrying it is pushed off the transfer car and into the hardening chambers. Two important features in this method of working are obvious: (1) The bricks are only handled once, i.e., when being stacked on the plate from the press, and (2) the press need never be stopped, since there is always an empty plate waiting to be filled.

The hardening chambers, of which there are thirteen, are rectangular brick structures approximately 15 ft. long, having at each side a low wall 2 ft. 6 in.



high, open at both ends, and a track down the middle for the lifting wagons; the latter are pushed into the chamber after being first raised to such a height that the plates clear the side walls. The wagon is then lowered so as to leave the plates resting upon the walls and is withdrawn to take another plate to the press. Each hardening chamber holds fourteen plates (7,000 bricks), and when filled the ends are closed by wooden doors, and exhaust steam from the colliery is then blown in. The bricks are kept in the tunnels for about seven days and are then sufficiently hard for loading direct into wagons. Generally, however, the bricks are stacked on the stocking ground for further hardening. It will be seen that from the time the material is delivered to the press house until the bricks leave the press the whole process is carried out automatically.

After being allowed to stand for some two months samples of the bricks were tested by Messrs. David Kirkaldy and Son, who found that the bricks would stand a crushing load of 217.14 tons per sq. ft., absorbed 10.94 per cent. of water, and would stand a temperature of 1,290 deg. Fahr.; that is to say, they compare very well with the ordinary building brick.

Within three months of getting properly to work the bricks were put upon the market at 20s. per 1,000 f.o.r., and in a very short time the stock was cleared and the output booked for three months ahead. At this time the output was about 45,000 per week, the bricks varying in colour from dark blue to light red, according to the burning of the clinker. The plant required 50 h.p. to drive it and employed ten men and four lads.

After twelve months working, as the clinker heap had increased considerably, it was decided to entirely remodel the works and increase the output capacity, which, in the light of the experience already gained, was a comparatively simple matter. The plant as now in operation has a capacity of approximately 90,000 bricks per week; it requires about 70 h.p. to drive it and employs seventeen men and six lads.

## EXHIBITION OF CONCRETE PRODUCTS.

In view of the scarcity of timber, steel, and brick, the prohibitive price of these commodities when obtainable, and the imperative need of a substitute for them, it is interesting to note that the Concrete Utilities Bureau, whose headquarters are at 6, Lloyd's Avenue E.C., has arranged a permanent collection of concrete products at their showroom, 143, Grosvenor Road, S.W. Here have been brought together a large variety of articles which illustrate, in a striking manner, the great number of uses to which concrete may be applied. For use on the estate and farm there are, in addition to many ornamental products, fence posts, gate posts, mangers, stable paving, tanks and troughs, any of which may be easily made at the cost of a few shillings only. Evidence, too, is offered of the rapidly increasing employment of this material on the railways. Several of the great railway companies have established their own concrete depots, and are turning out articles in large quantities for their own use. Contributions of this type of product have been received from the Great Western Railway Company, the London and South-Western Railway Company, and the North-Eastern Railway

Company. Municipal authorities will be interested in the paving slabs, kerbs and gutters, septic tanks, sewer pipes and man-holes, direction posts, lamp posts, tree guards and rose ladders for public parks which are exhibited, while the architect and builder will receive assistance from an inspection of various moulded parts of buildings and examples of artistic surfaces. As to the financial aspect of the question, it is claimed that, beyond all dispute, the economy of concrete lies, not only in initial outlay, which, compared with timber, iron or steel, is low, but in the fact that since the material requires neither paint nor preservative, and actually increases in strength over a long period, the cost for maintenance is reduced practically to nil.

## A COMPARISON OF STRUCTURAL MATERIALS.

When making a comparison between the merits of the various structural materials it must always be borne in mind that one material will be specially suited for one purpose, whereas another material will be pre-eminently suited to some other purpose. We must not let our enthusiasm for any particular material cause us to do it injustice by placing it in a false position. We do it the finest justice by recognising its natural limitations, and only praising it where praise is due. Mr. Horace R. Thayer, of the Carnegie Institute of Technology, in an interesting discussion before the Engineers' Society of Western Pennsylvania, dealing with the adaptability of the various types of structural materials, said that stonework is being limited more and more to cases where appearance is a vital factor. But he pointed out that even here various methods of treating concrete are being developed which are lessening the former objection to its rough and monotonous exterior. And he reminded his hearers that concrete is cheaper for a given strength, and that it is, moreover, fire-resisting, which stone is not.

Mr. Thayer said that brickwork still continues to hold its own for thin walls, where the stresses are light and a good appearance is demanded at a minimum cost. He said it was a first-class fire-resisting material, but that it was ill-adapted to resisting earthquake shocks.

The lecturer thought that timber should be employed for temporary structures exposed to the weather where the duration is not expected to exceed ten to twenty years, or where extensive alterations may be expected in that time. For a building these limits may be somewhat extended. The above advice pre-supposes, however, that there is no extensive conflagration hazard. While timber may be made as safe a fire risk as steel in many situations, it is more dangerous to the structure beside it.

Concrete, he said, is an excellent material. It is strong and, in general, durable and fire-resisting, but it is quite brittle. Reinforced concrete, however, has all the advantages of the plain material without the last-named disadvantage. The plain material is best for walls and foundations where its large bulk and weight are not objectionable. At equal costs, it is always better to carry a load by a weight than by a stress, for the consequences of minor faults may be much more serious in the latter case. Mr. Thayer said that steel would be recognised as one of the principal competitors of reinforced concrete. The advantage of the latter is its durability.

## NEWS ITEMS.

### L.C.C. Housing Estimates.

The London County Council estimates on capital account for housing in 1918-19 contain provision for the expenditure of £1,500 only, as compared with £8,800, £25,150, and £113,250 in the three preceding years. This provision includes £1,000 for completing the purchase of certain properties comprised in the Tabard Street, Southwark, scheme, where clearances and rebuilding are much needed and are long overdue.

### Widening of the Strand.

The widening of the Strand west of Wellington Street is to be taken in hand within a short time. The financial arrangements have been completed, and it is provided that the City of Westminster will contribute one-sixth of the total cost of the improvement. The houses that will have to come down to make way for the widening of this famous thoroughfare stand in the narrowest part of it, and the widening here will have a very favourable effect on the traffic, and will cause the present congestion at this point to disappear. Wellington Street itself will by the improvement plan be widened from 65 ft. to 85 ft., and the Strand will have an extended width of 13½ ft., namely, from 66½ to 80 ft. The site affected is the property of the Duchy of Lancaster, and the purchase price is £63,250.

### Admiralty Powers to Commandeer Houses.

By an Order in Council published in the "Gazette" of June 25, the Admiralty are given the following powers under the Defence of the Realm Act: "It shall be lawful for the Admiralty for the purpose of housing, with or without their wives and families, workmen employed in the building or repairing of ships or their machinery or accessories, to take possession of any premises (whether furnished or not) which are not ordinarily inhabited during the winter months or which have not been inhabited for a total period of three months at least during the twelve months immediately preceding the taking of possession. Provided that in the case of furnished premises possession shall not be taken until seven days after notice of the intention so to do has been left on the premises and sent by post to the owner or occupier."

### Leeds Garden City.

The site of the proposed garden suburb at Middleton, which is part of the Leeds Corporation's housing and town planning scheme, has been viewed by about forty members of the Leeds City Council, who were accompanied by Mr. Carby Hall, the chairman of the Development Committee. The members of the Council, after asking questions concerning the site, the mining operations for coal which have been carried out underneath the site, as to whether there was any likelihood of any subsidence after the erection of buildings, on the smoke and fumes from neighbouring collieries, and means of access, expressed themselves quite favourable to the scheme. The land, which is 326 acres in extent, has been offered at a low figure by the Middleton Estate and Colliery Company, and it is now suggested that Middleton Woods, which comprise about 120 acres, should be purchased by the Corporation to provide another park for the South Leeds district.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

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## NATIONAL PAPER ECONOMY.

*Owing to the very necessary Government restrictions on paper supplies, all elements of waste must be rigorously excluded. Our readers, we are sure, will gladly assist in promoting this object, which is an item in national economy. They can co-operate with us effectually in either of two ways—(1) By placing a direct subscription for this Journal, or (2) by placing with a newsagent an order for its regular delivery.*

*The Government Paper Controller has strictly forbidden the return of unsold copies of newspapers and periodicals to the publishers. Newsagents are therefore now keenly interested in the elimination of the casual customer, and are morally compelled to obtain only those papers that have been previously ordered. This fresh development strongly emphasises the foregoing advice to place a direct subscription or to give a newsagent a standing order for regular delivery.*

IN the problems in design set for the R.I.B.A. examinations, there is always observable an effort to introduce topical subjects. Those set for the forthcoming Final all show, with one exception, this practical turn; the exception being "Artist's Studio and House on an Island in a Lake." That Island in a Lake is such an old familiar friend that its omission would vex us with a sense of loss for which not even the "factory to hold 300 hands" would be adequate compensation. Long may that island continue to bob up from the pellucid lake in which the design "floats double, swan and shadow," drawing out any artistry that is in the candidate who scorns both the fact and the phraseology of "a factory to hold 300 hands." It is an old-fashioned expression, "hands," and many of the "hands" have as strong a dislike to it as the average woman has to being called a "female." In this factory there is to be a lavatory: we are to wash our hands. There is also special mention of a messroom: our hands evidently are credited with mouths, and the view of factory planning is to that extent in the modern spirit, in spite of the archaic reference to "hands." Gibbon, echoing Junius, has correlated "A heart to resolve, a head to contrive, and a hand to execute," and as the prolonged attempt to keep these things separate is obviously breaking down, the invidious term "hands" is obsolescent, and it is rather a pity that the Institute examiners have momentarily and carelessly revived it. But there is much more significance in the examiners' specific recognition of the "welfare movement." It would be superfluous to praise them for it: they could not well avoid it. Thanks to the example of the Government, it will henceforth be impossible to conceive of a factory for 300 workers without connoting a messroom, and its omission ought to be a punishable offence.

"Shall Architects Advertise?" is now a burning question in America. Under this heading in the latest issue of the "American Architect," the matter is discussed on pretty much the same lines that we adopted in referring last week to the fact that the American Institute had withdrawn its prohibition. For "shall," therefore, our contemporary might more appropriately have substituted "Will"; for, as our

contemporary puts it, "the question is squarely up to the individual architect as to whether or not he will advertise, and, if so, how." Our contemporary sees, "in this permission to advertise, a very strong note of encouragement, in that it manifests a breaking-away from the ultra-conservative attitude of conventionalism that has in later years been detrimental to the progress of architecture in this country," and he further observes that "it promises other changes later of a more far-reaching effect, which will put architects and architecture on the map as a component part of the real business life of the country." Architecture has been, in our own country, too much neglected on its business side, with the inevitable consequence that the architect is not commonly regarded as a practical man of business, to whom serious and strenuous work can be entrusted, but as a rather ineffable person who mumbles incessantly and inexplicably about Art, which in England is thought to bear the same relation to business as poetry to pork-packing. These erroneous impressions of the architect would be swept away if he were to enter upon a brisk advertising campaign. Will he do that in America? It is doubtful. He has there asserted his right, but it does not follow that he will exercise it very freely. Just what he will do, and particularly how he will do it, will be watched with interest from this side of the sea, where, unfortunately, ideas are much less democratic.

In the United States, it must be remembered, advertising is held in much higher esteem, and is practised much more vigorously and voluminously than it is in this country. Hence the American laity, instead of being scandalised at the action of their architects, are far more likely to express astonishment and contempt for the fatuity of neglecting so valuable a means of prosperity. Whether our own architects will have the courage to follow American example immediately it would be rash to conjecture; but to assume that they will do it sooner or later is merely to base probability on knowledge of the natural or unnatural history of fetishism—for sooner or later the idolatry ceases. At any rate, to have to maintain compulsorily this supposed gentility of not advertising is rather a farcical situation. There can be but little virtue in enforced abstention. Why not set the members free to do as they like about it? To allow this liberty would be to remove an undeserved slur on advertising. To advertise is not necessarily to be blatant and vulgar. Not the fact of advertising, but the method of doing it, is the criterion of vulgarity, and surely architects, of all men, can be trusted not to overstep the bounds of good taste. In America, again, building contractors advertise profusely, but without blatancy. In our own country similar firms seem to have become aware but recently of the advantages of publicity: which, in one form or another is a condition of prosperity. Why it should be regarded as beneath one's dignity to make known in a modest way and through a respectable medium one's address and business or profession, is a psychological problem that does not admit of easy solution.

For the Ministry of Health we must wait a little longer. In the House of Commons last Wednesday, Sir George Cave, replying to a question by Major Astor, said that, difficulties having arisen, it was

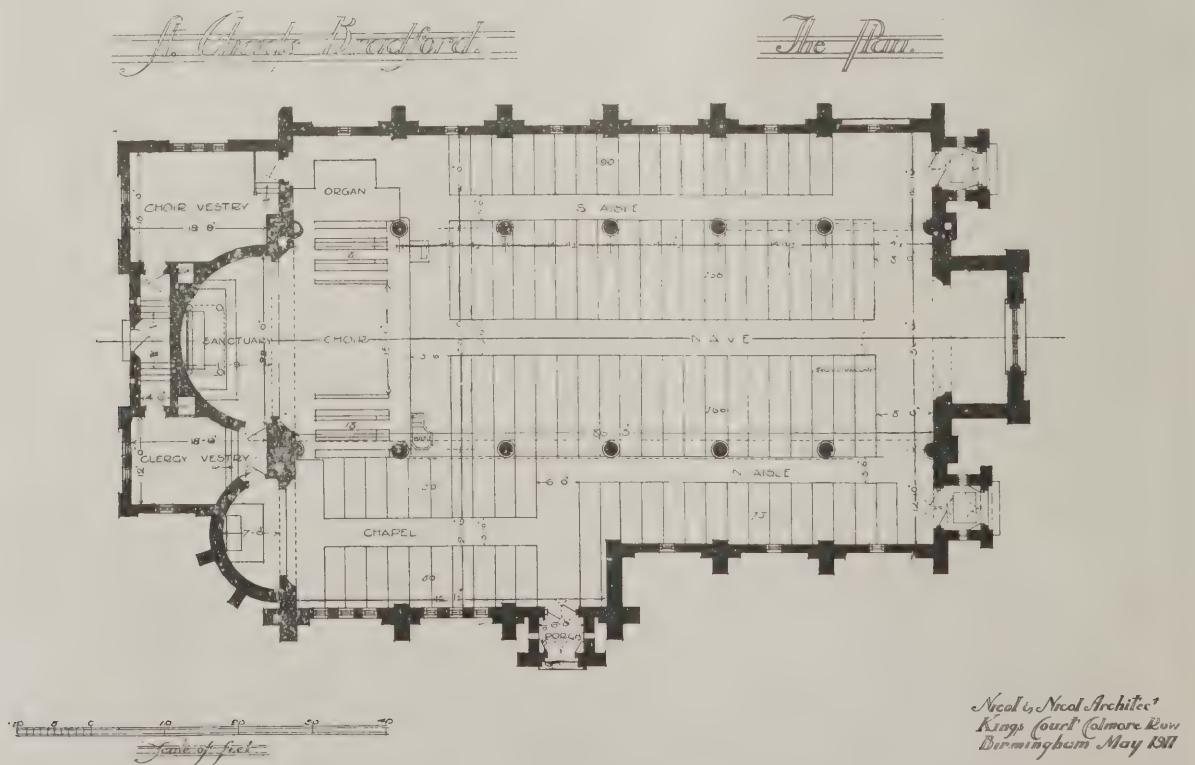


obviously impossible to pass such a Bill before the adjournment of the House in August next. It seems that the ancient device of the blocking motion has been employed against it with deadly effect. Perhaps the blocker does not specially object to this particular Bill, but is alarmed at the proposal to add yet another to our multiplicity of Ministries. To speak quite frankly, we should be more keen on the Ministry of Health if the British Medical Association were less so. Their anxiety to get it established may be purely platonic, but it has been manifested so ardently as to remind us of what in politeness we would have forgotten—that the Public Health is not the only interest involved. Architects and builders have particular reasons for dreading the creation of a fresh bureau, with power to harass to the nth by creating further restrictions and imposing new sets of regulations and by-laws, recommendations and prohibitions. To entrench professional interests of any kind in a strong Government position is an expedient of doubtful validity. We are already lawyer-ridden. If we are doctor-ridden as well, the M.O.H. in every district becoming a local tyrant, supported in aggressive insolence by a Government Department having a tender solicitude for its own, there will be a revulsion towards anarchy. A pamphlet issued by the British Medical Association includes this illuminating and alarming sentence: "The Local Government Board, constituted in 1871, and the Public Health Acts of 1875 and later dates, have done much for public health in this country, but they have failed to supply that unifying, directing, and driving force which is essential." As to its being essential, the driver and the driven may have opposite opinions.

At the Royal Academy Conference on War Memorials, the most original of the several suggestions was that made by the Dean of York. Besides the building of memorial chapels, and the use of crypts, there should be, the Dean thought, the clearing away of the ugly structures which obscure many of our finest buildings, and the formation of "a handsome space." It is a quaint expression—"a handsome space," but to pretend not to understand it would be mere affectation.

Yet greatly as we admire the idea, we fear that it does not make a popular appeal. Negative effects do not seize the imagination, and the popular notion of a memorial is of something put up, not of something pulled down—of creation, not demolition. It is to be feared, therefore, that the Dean of York's "clearance proposition, excellent as it is, will not find much support, and he should therefore console himself with "memorial chapels and the use of crypts." As a result of the conference, a general committee is being formed, to appoint an executive committee to carry out the various suggestions agreed on at the meeting. One of these, put forward by Sir Alfred Mond, was that "possibly the committee might formulate a series of authorised types of design." Possibly; but we devoutly trust that they will have too much respect for art to bring upon it the blight of standardisation.

It is, of course, reassuring to see this important subject of war memorials taken up seriously by a competent body as the Royal Academy. Nevertheless, one would have liked to see the R.I.B.A. more prominent in a matter that should involve much architectural design and should call for much architectural advice. Sir Edward Poynter, who was, of course, in the chair at the conference, said that "the time had now come for taking further steps to secure combined instead of isolated effort in erecting memorials, and to protect churches and public buildings from unsuitable treatment in setting-off monuments of the war." This is as plain an admission of architectural interests as the Dean of York made in his reference to memorial chapels. But there is still need to labour a point that is self-evident. A truth that the sculptor and his clients are equally apt to forget, however, is that the architectural setting of a monument should be designed by an architect. When it is not, the effect is commonly as lamentable as that which would ensue if the sculpture had been done by an architect. That architects have occasionally produced good sculpture, and sculptors good architecture, is no reason why these artists should not as a rule exemplify Sir Edward Poynter's demand for "combined instead of isolated effort."



ST. CHAD'S, BRADFORD: PLAN. NICOL AND NICOL, ARCHITECTS.

(See also Supplementary Plates.)

## HERE AND THERE.

HERE was once a man of great daring who in a book on "The Mechanics of Law-making," which he "intended for the use of legislators, and all other persons concerned in the making and understanding of English laws," ventured to criticise the language in which those laws are written. "Our legislators," he says, "from ignorance and want of skill in the workmanship of details, which they leave to the routine performance of mere artisans, seldom succeed in giving to the people a law intelligible either to themselves or the persons for whose especial guidance the law was designed. The beauty of a piece of mechanism is shown in the completeness of all its parts, and their combined action towards one general result. There is nothing excessive—nothing wanting. Each part has its special use, and is indispensable. Apply these principles to English laws, what are they? The clumsiest pieces of workmanship which the unskilled labour of man ever made." This is a wicked thing to say. What is still more wicked, the fellow proves his case by citing examples.

Here is an ordinary provision for bringing a later Act within the operation of former existing ones: And be it further enacted that all the powers, authorities, provisions, regulations, directions, fines, penalties, forfeitures, clauses, matters, and things whatsoever in the said hereinbefore in part recited acts or any of them contained, in relation to the said rates and duties thereby granted, or the levying, recovering, collecting, receiving, taking, paying, and accounting for the same, or in relation to any other act, matter, or thing whatsoever, shall so far as the same or any of them are applicable, to the rates and duties granted by this act or any other of the purposes thereof, and are in force at the time of the passing of this act, and are not hereby repealed, altered, or otherwise provided for or rendered unnecessary, extend and be construed to extend to the rates and duties by this Act granted, and to all the other purposes thereof, and shall operate and be in force in respect to the said rates and duties and other purposes of this Act, according to the true meaning of this Act, as fully and effectually to all intents and purposes, as if the same powers, authorities, provisions, regulations, directions, fines, penalties, forfeitures, clauses, matters, and things, were repeated and re-enacted in the body of this Act."

Our author shows how this terse sentence might be still further shortened. He might have spared himself the pains. Would he rob the law of its majesty? Let there be no mistake on this head. What the people understand easily they despise; but when a mystical and inexplicable sentence like that is edited in an obsolete legal hand which no layman can decipher, the client feels that here be mystic rites, ceremonies, and hieroglyphics. He is overcome with awe. Hocus-pocus and abracadabra hold him in thrall and he sees that he is getting something for his money, if it is only jargon. We love complexity. At one period it was frankly and professedly worshipped. When somebody showed that it was bad form—that implicitly should be the aim—and we hypocritically pretended to be converts to the new doctrine, flaunting in our garden-suburb cottage the brick fireplace and the ungainly bacon-beam, the peephole window and the overgrown rainwater-butt.

Love of complexity has been our undoing in art. Everywhere we find painful reminders of the fact. Hence what a modern critic calls "the ignominious juggle of modern architecture." "We find," he says,

"structural expedients used as ornaments, the most rigid parts of buildings in form (the rectangular parts, etc.), placed near the roof instead of in the basement, and pillars standing supporting, and supported by, nothing. Elsewhere we see solids over voids, mullions supporting arches, keystones introduced into lintels, real windows appearing as mere holes in the wall, while the ornamental windows are shams, and pilasters resting on keystones. And, everywhere, we see recent requirements masked and concealed behind Greek, Roman, Gothic, Renaissance, Rococo, and Baroque embellishments, thrown together helter-skelter, and with a disregard of structural demands which must startle even the uninitiated." Those little mistakes, and many others that could be mentioned but for the dreariness of the catalogue, were made, and are still being made, because we have not the wit to be simple, because it is easier to crowd in all sorts of embellishments than to master the simple but delicate art of adjusting proportions.

It is the same kind of affliction as that which impels the legal draughtsman to drag in all the superfluous words and phrases that destroy or obscure the meaning of his "instrument." He loves each word and phrase for its own sweet sake, and pays but little heed to its effect on the composition. Secretly, subconsciously, without intention, he loves also the complexity, the intricacy, of the maze of words he ingeniously constructs. His unholy passion should be quenched. He should be compelled to draw up his documents in plain terms, and in the fewest possible words. He does not do the contrary out of his own wickedness. He is simply following a wicked precedent. And there are those who say roundly that the language of conveyancing is rooted in fraud. They say that, in mediæval times, the learned clerks who drew up deeds were wont deliberately to make the language obscure or ambiguous, so that ecclesiastic property-holders could dodge obligations that ought not to have been imposed on them as tenants, or so that as landlords they could impose on their tenants conditions that the "instrument" did not make clear. Our whole present system of unregistered conveyances, it has been said, "is derived from an original fraudulent evasion of the law—an objection of no great weight, as so much of the law of real property rests on no better foundation." Deeds relating to it are "cast in the forms and phraseology derived from the reiterated struggles of ecclesiastical and legal ingenuity against feudal and statutory restrictions."

All the land laws, and most of the documents relating to them, are tainted and stained with mediævalism. Not only does the language of the documents reek of this corroding must—to take the commonest examples, the words landlord and tenant glow with the iniquity of feudalism—but all the conditions are astonishingly one-sided. As someone has said, "Land laws are based on the feudal system, and therefore on the assumption that the landlord is a superior person to the tenant, and should therefore have the advantage." It has been said also—by the same writer, I think—that where the laws favour the landlord they are retained as if they were unalterable laws of nature; where they appear to afford a temporary protection to the tenant, they are promptly altered. Then look at the feudal barbarity of the law of distress! Certainly these feudal laws want recasting; and until this happens the discontents of builders will increase in volume and virulence.

DIOGENES.



## STATE AID FOR HOUSING.

A MEMORANDUM of the Advisory Housing Panel of the Ministry of Reconstruction which, under the chairmanship of Lord Salisbury, has been considering the conditions of housing in England and Wales as an emergency problem, has been issued as a White Paper.

### *Increase of Rent Act.*

Dealing with the Increase of Rent Act, 1915, the Panel point out that, although it may have been inevitable during the war, on the expiry of the Act, unless prompt and effective steps are taken to remedy the scarcity of houses, rents in many places will rise and grave discontent will be caused, and, apart from any injustice inherent in the Act, its continued existence must be a hindrance to building by private enterprise, which up to the beginning of the war supplied at least 95 per cent. of the total amount of building. One of the factors which have driven men from the land in the past has been the lack of houses, which was estimated to amount in 1912 in rural areas to 120,000 houses.

### *Insufficiency of Houses.*

The Government's programme for increased arable cultivation depends, it is pointed out, for its success on a very considerable increase in the numbers of agricultural labourers. In the panel's opinion it is imperative that the Government should secure within the first year after the war the building of sufficient houses for the working classes to make up the deficiency caused by the cessation of building, and to supply some part of the special rural needs; that building be begun without delay after the war; that the labour made available by demobilisation may be absorbed and unemployment prevented; that the opportunity be taken for ensuring a good standard of design, and that the houses be built in the localities where they are the more needed.

The cost of building houses has risen greatly during the war, probably to the extent of 50 per cent. In the year immediately after the war prices must be expected to remain at a higher level than that to which they will eventually fall when normal conditions are restored. The view is expressed that, whatever other measures be taken, no considerable number of houses will be built in the year after the war, unless financial aid is forthcoming from public funds, to make good the inevitable loss due to abnormal prices. It was estimated that by the end of 1917 the dearth amounted to 300,000 houses and that an additional 75,000 would be required for each year the war lasted beyond that date. It is probable, it is stated, that the provision of 300,000 houses would involve an expenditure of about £100,000,000, and the grant in aid which it would be necessary for the State to make might amount to £25,000,000 or even more. Moreover, Scotland and Ireland are omitted from the calculation, and in Scotland the scarcity is even greater than in England, and the standard markedly lower.

### *District Housing Commissioners.*

The Panel recommend that the country should be divided into areas and that over each should be placed a District Housing Commissioner, to be appointed by the President of the Local Government Board. The first duty of the Commissioner would be to check the returns of the local authority and to decide how many houses should be built in each area. The principle to be followed in arriving at

the total number to be built would be to make good the additional scarcity caused by the war and to meet the urgent needs of the country districts. To obtain a high standard of building the Panel recommend that a competent architect should be appointed to the staff of each Housing Commissioner to be selected from a panel of local architects.

### *Mr. Hayes Fisher on Private Enterprise.*

An announcement as to the attitude of the Treasury towards housing construction after the war was made by Mr. Hayes Fisher, President of the Local Government Board, to a deputation from the Labour Housing Association on July 2.

The deputation demanded, according to the "Times" report of the proceedings, that the Government should provide money free of interest; (2) that there should be public contest in all instances; (3) that women should sit on all housing committees.

Mr. Hayes Fisher said that the cleverest financier in London was unable to tell them at what rate the Government would be able to get money after the war. He had already put forward a suggestion that the Treasury should lend money below the rate at which they borrowed it, but they had said that they could not possibly consider such a proposal. He considered it impossible to build houses for the working classes at an economic rent for certainly some few years after the war. Hence the proposal that the Government should be responsible for 75 per cent. of the loss on such rentals as were agreed on as reasonable for the working classes to pay, the local authorities being responsible for the other 25 per cent. He did not agree that the local authorities would shrink from that financial obligation. It was proposed to limit the liability to a penny rate, but he felt that many municipalities could afford to pay more, especially if they were going in for a large number of houses, and he saw no objection to the local financial obligation exceeding in certain instances the amount specified. He wished to make it clear, however, especially in regard to rural authorities, that if the obligation exceeded 25 per cent. it would be within the Board's discretion to say that the liability should not exceed a penny rate.

He did not agree with the suggestion that in no circumstances should private enterprise be called in to help the Board in those matters. As this scheme postulated a loss, he did not see how it affected the private owner or public utility company who were working for a profit; but the problem would be an extraordinarily difficult one to solve, and the Board were indisposed to shut out from their judgment any scheme, by which the private owner or public utility company might come in and help them. As private owners had built 95 per cent. of the houses before the war the Board would not lay it down that the Treasury should not advance any money to private owners or public utility companies. That must be left to their discretion. In conclusion, he said he hoped they would all get together and try to beat out an agreed scheme on which they could all work to build at least from 200,000 to 300,000 houses immediately after the war.

Dr. Addison, Minister of Reconstruction, said that so far as the acquisition of land for housing in rural districts was concerned, proposals had been formulated and were now under a Government Committee, and there was also a committee dealing with all requirements regarding building materials for the after-war period.

## THE CONTROL OF IMPORTED SOFTWOOD TIMBER.

THE deliberations of the Controller of Timber Supplies and a Select Committee appointed under the auspices of the Timber Trades Federation of the United Kingdom, regarding the control of imported softwood, have now been concluded, and the Committee had its final Session with the Controller on June 13. We are now able to give further particulars of the Rationing Scheme which has resulted. As already announced, the firms interested are being called upon as a preliminary step to register themselves with the Timber Supply Department. The firms invited to apply for registration are those whose average transactions in sawn and planed imported softwoods for the years 1912, 1913, and 1914, taken together, exceeded 100 standards per annum, one form of application, "R.A.," being designed for merchants and retailers, and another, "R.B.," for shippers' agents and brokers.

The Controller is prepared to give consideration to any cases of other firms who can show good reasons for their being included in the scheme.

Forms not already sent in should be forwarded to:

The Department of Timber Supplies (Branch 1), whose address is now 80, Newman Street, Oxford Street, W.

Particulars are required on the forms of the total purchases and stocks in the case of importers, merchants, and retailers, and the total sales in the case of shippers' agents and brokers, of sawn and planed imported softwoods (excluding plywood, box shooks, joinery mouldings, etc., and all hewn or partly hewn or round softwoods).

The classes of woods to be included in the return are:

1. European red and white fir.
2. Canadian and Newfoundland pine, spruce, and other fir.
3. United States of America pine, spruce, and other fir.

The completed forms "R.A." and "R.B." will be scrutinised by the members of the Select Committee, who have agreed to assist in this respect, and the forms "R.A.," if in order, will serve as a basis for rations out of the national stock, which is to be formed under the new Scheme. The use of form "R.B." is explained later in this article.

### *The National Stock.*

So long as the Scheme operates, all softwoods will be purchased and imported into the United Kingdom by the Timber Supply Department, assisted by a Trade Purchasing Committee, and after a date to be arranged the Timber Supply Department proposes to take over as they arrive all parcels of softwoods falling within the Scheme coming forward on private account. Purchases or sale abroad by persons or firms in the United Kingdom are subject to permit from the Controller. The purchase of standing timber abroad is not affected by this Scheme. The timber will be stored at the ports of arrival or elsewhere at the expense and on behalf of the Government, the store yards, and facilities of the trade being used as far as possible for this purpose. The timber held and purchased by the Timber Supplies Department will be regarded as the "national stock."

The present holdings of the trade now in stock in the United Kingdom will remain the property of the respective owners, and may be disposed of to consumers holding permits to purchase. Such holdings will be subject to the existing regulations as to selling price, except that in order to deal with the difficulties which have arisen from time to time in connection with the remaining small and scattered stocks imported before May 15, 1917, from Norway and Sweden, and

July 19 from Canada and the U.S.A., members of the timber trade holding these stocks and furnishing a full return will be permitted to dispose of them on such conditions as may be allowed by the Controller.

After a certain portion has been reserved for emergencies, and for such requirements of Government Departments as it may be considered necessary to deliver direct, "national stock" will be available to recognised importers, merchants, and retailers under a Rationing Scheme based on the declarations made on form "R.A." When the Scheme is fully in force the sales which under the old conditions were made by the Government buyer to consumers, will practically cease. The Controller has, of course, to reserve the right to vary or cancel the ration either in the case of a particular firm or generally, in the event of sudden and grave emergency.

### *The Rationing System.*

The ration allocated to firms will be based on the average purchases declared on the form, reduced by the amount of their present holdings. They will not be expected to draw upon the national stocks of supplies until their own stocks are exhausted. The permit to purchase issued by the Department of Timber Supplies to Consumers will entitle a merchant to take supply out of his own stock, or the ration from the national stock to which he be entitled. Allocation will be made in the first place for a six months' ration. It may be found that all specifications may not be able to be delivered exactly as requested, but supplies will be made having regard to the necessity of economy and the quantity of the particular sizes available.

The terms for payment to the Department for supplies drawn from national stock will be net cash in exchange for delivery order. Maximum prices for sales to consumers will be published from time to time in the trade Press, and supplies out of the national stock will be made to the trade at £3 15s. per standard below these prices, this margin to include working expenses and one month's interest where credit is allowed.

The trade may also add as separate charges:

- (a) Cost of loading, carriage, and delivery to destination, if delivery is not taken by the receivers at the yard on which the delivery order is issued.
- (b) Any sawing, planing, or machining at the current local rates.
- (c) Interest on accounts not paid within one month of date of invoice chargeable at 5 per cent. per annum from the expiration of one month to the date of payment.

Retail yard keepers entitled to a ration may apply to the Controller of Timber Supplies for permission to draw a portion of their ration from the national stock for storage in their own yards for retail sale. Such timber may be disposed of to consumers not holding permits to purchase, provided the timber is required for work of national importance or urgent necessity and subject to a declaration by the buyer on a form kept by the retailer limiting the amount of timber of any kind purchased within a week from whatever sources by any one buyer without a permit, to a maximum value of £5. The retailer will have to make a monthly summary of such sales, and the declarations will be inspected by the Department of Timber Supplies from time to time.

Timber drawn from the national stock and stored by retail yard keepers as just described may be sold at not more than £2 per standard over the scheduled prices, and in addition the cost of delivery to and from store may be added. The balance of the ration to



retailers will be sold direct from national stock, subject to the same conditions as those ruling for importers and merchants.

It is specially to be noted that merchant-to-merchant sales will not be permitted either of present holdings or rations from national stock, but only merchant-to-consumer transactions. Furthermore, owing to the limited supplies of imported timber available, the Rationing Scheme can only be applied to recognised members of the timber trade, and not to manufacturers and other consumers. It is important to note that as a general principle, firms cannot be registered in the dual capacity of merchant and agent.

#### *A Pooling Scheme.*

The purchases of the Department will be made through shippers' accredited agents domiciled in the United Kingdom, except where there are special reasons to the contrary. The registration forms "R.B." will be used in connection with a pooling scheme for shippers' agents and brokers. This part of the Scheme embraces the formation of a pool, which will be made up of:

- (a) A contribution from agents of a portion of their earnings.
- (b) A contribution from the Government.

The sum so obtained will be divided in accordance with the accepted declarations on the forms "R.B." sales on behalf of other than shippers ranking for only half the value of sales for account of shippers.

The necessary figures and statistics which are now being obtained will enable the scheme to be put into operation at an early date. A new Timber Order will shortly be issued which will consolidate a number of existing Orders, and affect the control, not only of imported timber, but also of home-grown timber.

### PROGRESS OF THE WHITLEY COUNCILS.

THE formation of Joint Industrial Councils on the lines of the Whitley Report is steadily proceeding. Councils in the pottery and building industries are already at work, and during the present month several newly formed Councils will hold their first meetings; while in seven other industries provisional committees have already drafted constitutions of proposed Industrial Councils, which have been sent out to the various Associations concerned for their approval. These include cable-making, commercial road transport, electrical contracting, and furniture making. Preliminary conferences as to the formation of Industrial Councils have taken place, and proposals to proceed with the drafting of constitutions have been approved, in five other industries, including electricity power and supply. In some twenty other industries the question of the formation of Joint Industrial Councils is being given careful consideration, and in a number of cases proposals to summon joint conferences of employers' association representatives and trade union representatives have been approved.

There are many of the nation's industries, of course, in which the organisation on the side either of the employers or of the workers is not sufficiently representative as yet to admit of the formation of Joint Industrial Councils at once. In these industries the "Whitley idea" is being carried out by the formation of temporary bodies, which are termed Interim Industrial Reconstruction Committees. They will deal with the many urgent problems attached to the re-establishment of their representative industries on a peace basis, and in addition will improve the organisation of their trades where it is at present unrepresentative. Later it is hoped they will be in a position to pass from their temporary character and become full

Joint Industrial Councils. Towards the formation of these temporary bodies the Ministry of Reconstruction has already made considerable progress, and committees have already been established in some twenty trades and industries. Fuller details of progress in this matter will be available shortly.

### "THE DEVELOPMENT OF BIRMINGHAM."

IN his book on this subject to which we made reference last week, Mr. William Haywood, F.R.I.B.A., shows that since the existing municipal offices were built in 1878, the population of Birmingham has increased from 440,000 to 900,000, and the original building is not only insufficient for present purposes, but hopelessly out of date. A new post-office also is badly wanted, a new central library will be required in course of time, and among other buildings which, as Mr. Haywood says, may be reasonably anticipated, are a natural history museum, a hall for machinery and the metal trades, an opera-house or hall of music, and halls for exhibitions. There is also a cathedral to be considered, and finally the need for a central heating station, a war museum, and a memorial. "For all these there should be sites in view, and, properly grouped, these sites will be found to give Birmingham just what it needs as a town centre."

For the future municipal buildings, a "skyscraper" type is proposed, the author contending that if there is one building in an English town which justifies the use of this type, it is the council-house, which naturally marks the centre of the town's affairs, and is the building which claims pre-eminence in the civic scheme. If, he says, as a skyscraper it is an isolated example, its individual importance is the greater, and the objection of over-shadowing—which would be a serious one against promiscuous tall buildings in our climate—is not created. Mr. Haywood invests his tall tower with magnificent architectural character; and his observations on its appropriateness are so cogent that we feel sure Birmingham will hasten to adopt the idea before it becomes common. We always contend that the compleat architect must be more or less of a sociologist. Mr. Haywood, in the course of his fascinating essay, throws out many casual sayings that reveal him in this character. For example, he suggests that the accommodation to be provided in the municipal building should be a hall of marriages, designed on a scale in reasonable proportion to the ceremony: "the present conditions of civil marriage being neither worthy nor politic, and in need of improvement at the earliest opportunity."

With reference to the proposed new road from Stephenson's Place to Hurst Street, shown on the plan reproduced in last week's issue on page 19, Mr. Haywood believes that the construction of the road, so that it would not interfere with the present station accommodation, does not apparently present any great difficulty, and points of support, and girder depths, may be left to the skill of the engineers, who would probably avoid the difficulties created by the huge girders designed for a similar purpose in Navigation Street and Hill Street—if that difficulty presented itself—by designing the whole ground storey of the flanking buildings as a girder, in which the necessary openings for windows, etc., could be allowed for.

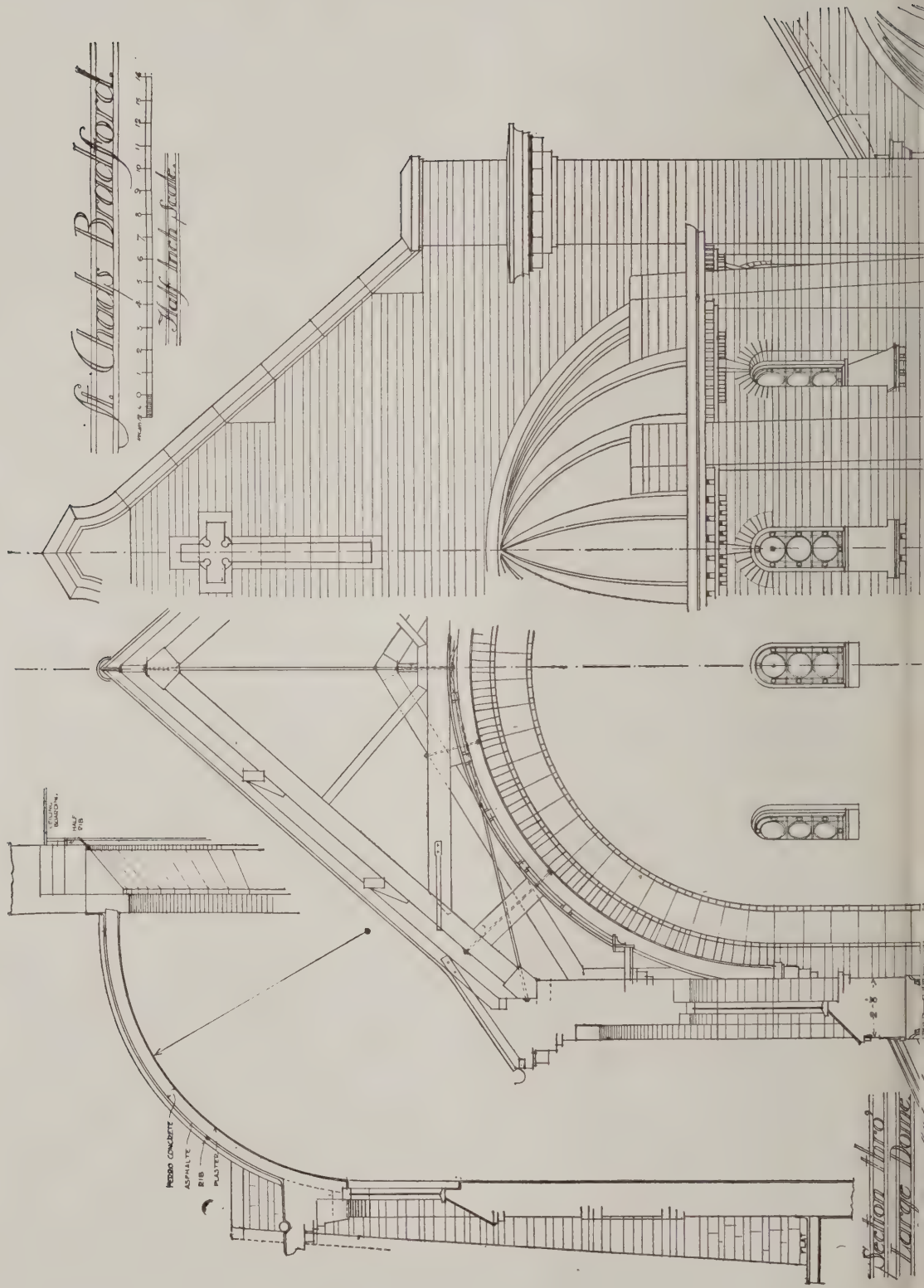
Dealing with the proposed approach from the station to the town hall, Mr. Haywood says: "There is nothing at the present moment between Navigation Street and Swallow Street to prevent this vast improvement; but at the Post Office extension we meet with a difficulty which is likely to block the way





*St. Charles Bradford*

*Half inch scale.*



POSSO CONCRETE  
ASPHALTE  
RIB  
PLASTER

*Section thro'  
Large Dome*





1771

1771



View from North-East.



View from South-West.

*Photos : Thomas Lewis.*

CURRENT ARCHITECTURE (SERIES V.). XLII.—ST. CHAD'S CHURCH, MANNINGHAM, BRADFORD.

NICOL AND NICOL, ARCHITECTS.







*Photo: Thomas Lewis.*

CURRENT ARCHITECTURE (SERIES V.). XLIII.—ST. CHAD'S CHURCH, MANNINGHAM, BRADFORD: INTERIOR, LOOKING EAST.  
NICOL AND NICOL, ARCHITECTS.







Photo : Thomas Lewis.

CURRENT ARCHITECTURE (SERIES V.). XLIV.—ST. CHAD'S CHURCH, MANNINGHAM, BRADFORD: THE ALTAR.  
NICOL AND NICOL, ARCHITECTS.







ARCHITECTURAL DRAWINGS AND SKETCHES. XXVI.—LONDON IN THE 'FORTIES: PALL MALL, LOOKING TOWARDS TRAFALGAR SQUARE.  
(From the Lithograph by T. S. Boys.)





for some time to come. This need not discourage us, however, the dreadful unsightliness of the present buildings and the truly remarkable possibilities of this approach to what, in effect, is our Acropolis, should encourage us to wait for and take the opportunity, when it again offers itself, as in time it will.

"The Town Hall stands 600 ft. back from Navigation Street, on a rise of 40 ft., and above this the colonnade of the Hall stands 23 ft. higher on its stylobate, offering a remarkable opportunity for architectural effect; and, in order to get the proper value from these unusual conditions, it is proposed to construct a vista comprising two roads of 50 ft., enclosing a series of gardens, tapering from 50 ft. in width at Navigation Street to 25 ft. at the top of the hill. The roads draw together to enhance the effect, and in the centre, dominating the whole, is the Hall.

"On either flank, if building operations are properly controlled, there should be an important building, properly designed for effect from the Station Place, while further down the hill, on the lower side of Swallow Street, two buildings, less both in actual height and by having a lower ground level, would give variety to the composition. Below these again, shops or other buildings of two stories would keep the view open and assist the monumental effect, which would be closed laterally by the Technical School on the one hand and a new block of office buildings on the other. Facing in the opposite direction and approaching the station from the Town Hall, the view is centralised by an Exchange, Hall of Commerce, or other public building, while the new station would be in view practically as far as the Town Hall."

[The statement made last week that the issue of Mr. Haywood's "Development of Birmingham" was limited was true only with regard to the first edition. We are informed that a further edition is now for sale at 6s. 6d. per volume, and copies may be had from B. T. Batsford, 94, High Holborn, London, W.C.]

## CORRESPONDENCE.

### *Income-tax Returns.*

SIRS,—May I draw your readers' attention to the extra care needed this year in completing the Income-tax Return Forms? Where applicable and where the total income does not exceed £800, it is necessary to claim relief in respect of: (1) Wife; (2) dependent relative; (3) children under sixteen; (4) life insurance premiums; (5) expenses. Where the total income lies between £800 and £1,000 relief should be claimed in respect of: (1) Children under sixteen above the number of two; (2) life insurance; (3) expenses.

In these days when remunerative positions in the industrial world are filled by ladies, it is also important to note that a separate assessment and abatement can be claimed in respect of a wife's earned income, where the total income does not exceed £500. This is a privilege seldom taken advantage of.

WILFRED T. FRY.

62 and 63, Queen Street, London, E.C.

### *The Architectural Association Red Cross Detachment (London 43rd) Volunteer Field Ambulance Unit.*

SIRS,—May I appeal once more through your columns for recruits for our Red Cross Detachment? We are now raising a body of men for a Volunteer Field Ambulance Unit which will be on the same footing as other branches of the Volunteer Force. Its services will be utilised in case of national emergency, and in the meantime its members will receive training by medical officers in first aid and field-ambulance

work generally. A free issue of uniform will be made immediately the unit is at full strength.

Men of all ages in Grades 2 and 3 are eligible for enrolment, provided they have been exempted from military service, and it should be noted that men granted exemption by tribunals conditional upon their joining the Volunteer Force will satisfy this requirement (if they are Graded 2 or 3) by joining the Volunteer Field Ambulance Unit. All those wishing to respond to this appeal are requested to communicate with me at the Architectural Association, 35, Bedford Square, W.C.1.

F. R. YERBURY, Quartermaster.

### *Reinforced Concrete: Some Suggestions.*

SIRS,—May I suggest that the experiment might be made of rendering the surface of concrete ships with Mastic cement (made usually, I believe, with powdered asphalt mixed in cauldrons with heated tar and a proportion of fine grit). This, I believe, would give a smooth surface, prevent the minute cracks that sometimes appear, and also be impervious to water. I suppose it would want specially testing to see if it withstood the effects of tropical heat, as anything of a tar nature might be likely to be affected, but I think this trouble would be obviated by not using too great a proportion of tar. I also suggest that all ironwork in reinforced concrete should be galvanised as an extra precaution against rust.

Another suggestion I would make, with regard to reinforced concrete buildings, that seems to have been overlooked somewhat. Why not always build all the structural part of a building in reinforced concrete, and, except when you want a special cement-finished appearance, veneer the fronts of the buildings with brick or stone, so as to obtain the external appearance presented by our usual best facing materials? For brick 4½ in. face built in cement, as each horizontal layer of concrete is formed, while the concrete is yet green, the outside form boards could have small strips of wood nailed on to form a key in the concrete for the mortar. This would make the work homogeneous; a good proportion of sand should be used, I think, in the cement mortar that its expansion and contraction qualities should be as nearly as possible equivalent to those of the reinforced concrete. This point of similar expansion and contraction would probably apply to the mastic surfacing of concrete ships. As regards the stone veneer, it should be tied on to the concrete with galvanised iron holdfasts (of course, this is only for buildings that can afford these facings). There is nothing particularly novel about these ideas, and they are perhaps expressed in degree superficially, but I should be glad to hear any scientific reasons against such proposed treatment.

E. H. LEGGE.

Upper Warlingham, Surrey.

## THE PLATES.

### *St. Chad's Church, Manningham, Bradford.*

It is seldom that the designer of a modern church dares to be original. Messrs. Nicol and Nicol, however, have infused modern spirit into ancient forms, and have produced a design which, while somewhat eclectic, is certainly dignified, and is redeemed from the dullness that dogs too tame a submission to convention. Both inside and out, scale and proportion have been finely observed, and in these respects the altar is particularly noteworthy.

### *Pall Mall in the 'Forties.*

This lithograph by T. S. Boys enables one to understand the passionate love of Captain Morris, Poet-Laureate of the Beefsteak Club, for "the sweet shady side of Pall Mall." Its buildings are surely matchless in their serene and suave classicality; and Boys, as usual, has exactly caught the spirit of this fine street.



## SPECIFICATIONS FOR PAINTERS' AND DECORATORS' WORK.

BY ARTHUR SEYMOUR JENNINGS, F.I.B.D.

1. *Note.*—Many of the materials used by painters may not be employed at the present time without special permit or licence of the Minister of Munitions, and in the case of oils the Minister of Food. As, however, the Specifications which follow are intended for permanent use the existing prohibition has been disregarded, it being assumed that the work will not be proceeded with until a permit has been obtained or the restrictions are relaxed.

2. The principal materials which may not be used or purchased without permission are white lead, zinc oxide, zinc sulphide, all colours containing lead or zinc if over 3 per cent., raw linseed oil, turpentine, white spirit (turpentine substitute), rosin and rosin oils, and wood preservatives derived from coal tar.

*General Clauses.*

3. *Workmen.*—None other than skilled workmen are to be employed, excepting labourers and lads in the proportion of 25 per cent. The standard rate of wages per hour is to be paid to the painters. A properly qualified foreman is to be constantly on the job while the work is proceeding.

4. *Scaffolding.*—All the necessary scaffolding, tools, and appliances, and everything else required for the execution of the work are to be supplied by the contractor.

5. *Water, etc.*—The owner is to supply all water, light, and firing required.

6. *Locks and Fittings.*—All locks, bolts, and fastenings are to be removed before the preparatory processes are commenced, and are to be renovated (lacquered if made of brass), and fastened in position on completion.

7. *Dust Sheets.*—An ample supply of dust sheets to protect the work during its progress is to be at hand.

8. *Wet Weather.*—No painting on exterior work is to be done in wet or foggy weather or upon surfaces which are not thoroughly dry.

9. *Dust, etc.*—Painting, varnishing, and enamelling are not to be proceeded with unless the room is practically free from dust. All coats shall be thoroughly dry before subsequent coats are applied, and the requisite rubbing down with glass paper between coats is to be done. All cracks, crevices, and nailholes to be stopped with hard stopping of approved make, or shall consist of 80 per cent. of putty mixed with 20 per cent. of white lead.

10. *Special Brands.*—Whenever special brands of paints, varnishes, or other materials are specified to be used, other materials of a similar character and quality may be used instead only when permission so to do has been given in writing by the architect.

11. *Straining.*—All white lead and other paints mixed on the job to be twice strained and to be free from specks and "nibs." It is to be well brushed out and be finished smooth and free from brush marks.

12. *Tints and Shades.*—All tints and shades are to be approved and the contractor is to allow for twelve hours' time of one man in painting small portions of the work in different colours, so that the appearance *in situ* may be judged and a selection be made. The tints of undercoats are to approximate those of the

finishing colour. In order to indicate the number of coats applied a difference is to be made in the tint of each succeeding coat.

*Materials.*

13. *White Lead.*—All white lead to be genuine (i.e., pure), manufactured in Great Britain by the stack process and ground in pure refined linseed oil. (If any other process is preferred it should be mentioned.)

14. *Zinc Oxide.*—All zinc oxide to be genuine, and if manufactured by the "direct" process shall contain more than 5 per cent. of white lead.

15. *Lithopone.*—Lithopone or zinc white is not to be used for outside work. It shall contain not more than 66 per cent. of precipitated sulphate of barium and not less than 25 per cent. of sulphide of zinc. When mixed as a paint for application it must possess at least the "body" or opacity of genuine white lead similarly mixed.

16. *Linseed Oil.*—All raw linseed oil shall be pure, free from foots, and shall have a specific gravity between 0.932 and 0.937. Boiled linseed oil shall have a specific gravity between 0.940 and 0.950.

17. *Turpentine.*—The turpentine shall be genuine American turpentine, having a specific gravity of .867.

*ALTERNATIVE.*

18. *White Spirit.*—Turpentine substitute or white spirit may be used in place of genuine turpentine for all white and tinted work, excepting that which is to be finished flat.

19. *Driers.*—The driers used to be paste containing not less than 25 per cent. of actual drying agents.

*ALTERNATIVE.*

No paste driers are to be used, but only the requisite quantity of "—" liquid driers. Care must be taken not to exceed the amount of driers actually needed.

20. *Colours.*—The tinting colours used are to be finely ground in oil and of the best quality, free from adulteration.

21. *Bleeding Reds.*—The use of red or other colours which "bleed," i.e., are soluble in oil, is strictly forbidden.

22. *Varnishes.*—All the varnishes are to be manufactured by — or other approved firm, and are to be used exactly as received and without any addition or admixture whatever. The catalogue prices of the different grades to be as follows per gallon: French oil varnish, 30s.; outside copal, 18s. 6d.; inside oak, 15s.; carriage, 25s.; rubbing or flatting, 21s.; church, 15s.; bath varnish, 25s.

23. *Enamels.*—The white and tinted enamels to be "—" only, or other approved brand, and these are to be used as received and without addition or admixture.

24. *Proprietary Paints.*—On that part of the work herein mentioned "—" ready prepared paint is to be used instead of white lead. All such paints, distempers, etc., are to be mixed strictly in accordance with the manufacturers' instructions.

25. *Knotting.*—All patent knotting is to be of the best quality, consisting of shellac dissolved in methylated spirits only, and is to be from rosin and naphtha.

26. *Red Lead.*—This shall be pure oxide

of lead finely ground and mixed in small quantities as required.

27. *Paint Solvent.*—"—" brand of neutral paint solvent to be used where necessary on all inside work; the surface to be rubbed down with cotton waste soaked in turpentine after the paint has been scraped off. If a caustic paint remover is used a coat of dilute vinegar is to be applied before repainting in order to neutralise the alkali.

*New Woodwork (Exterior).*

28. *Knotting and Priming.*—A thin coat of knotting well brushed out is to be applied to all knots, as well as to sappy or resinous parts of the wood. Any large or loose knots are to be cut out and neatly plugged. The priming coat is to be made of white lead mixed with not more than 5 per cent. of red lead. The thinners are to consist of 90 per cent. raw linseed oil and 10 per cent. turpentine, together with the necessary driers. The paint is to be well brushed into the wood.

29. *Stopping.*—All nail-holes, cracks, and defects to be levelled up with hard stopping.

30. *Second Coat.*—The second coat is to be mixed with 80 per cent. of oil and 20 per cent. of turpentine, and the red lead is to be omitted.

31. *Third Coat.*—The third coat is to be the same as the second, but equal proportions of turpentine and oil are to be used.

32. *Last Coat.*—The last or finishing coat shall be mixed with 90 per cent. of oil and 10 per cent. of turps.

*ALTERNATIVE.*

The last coat to be mixed the same as the second, but to have the addition of 20 per cent. of the bulk of good copal mixing varnish.

*ALTERNATIVE.*

33. Instead of white lead above specified, a paint is to be used which consists of 75 of genuine white lead and 25 per cent. of zinc oxide ground together by the paint manufacturer and supplied in paste form. If the paint is to be used on the seashore 40 per cent. of zinc should be used. The proportions of oil and turpentine given above may be varied by using slightly more oil and less turpentine.

*ALTERNATIVE.*

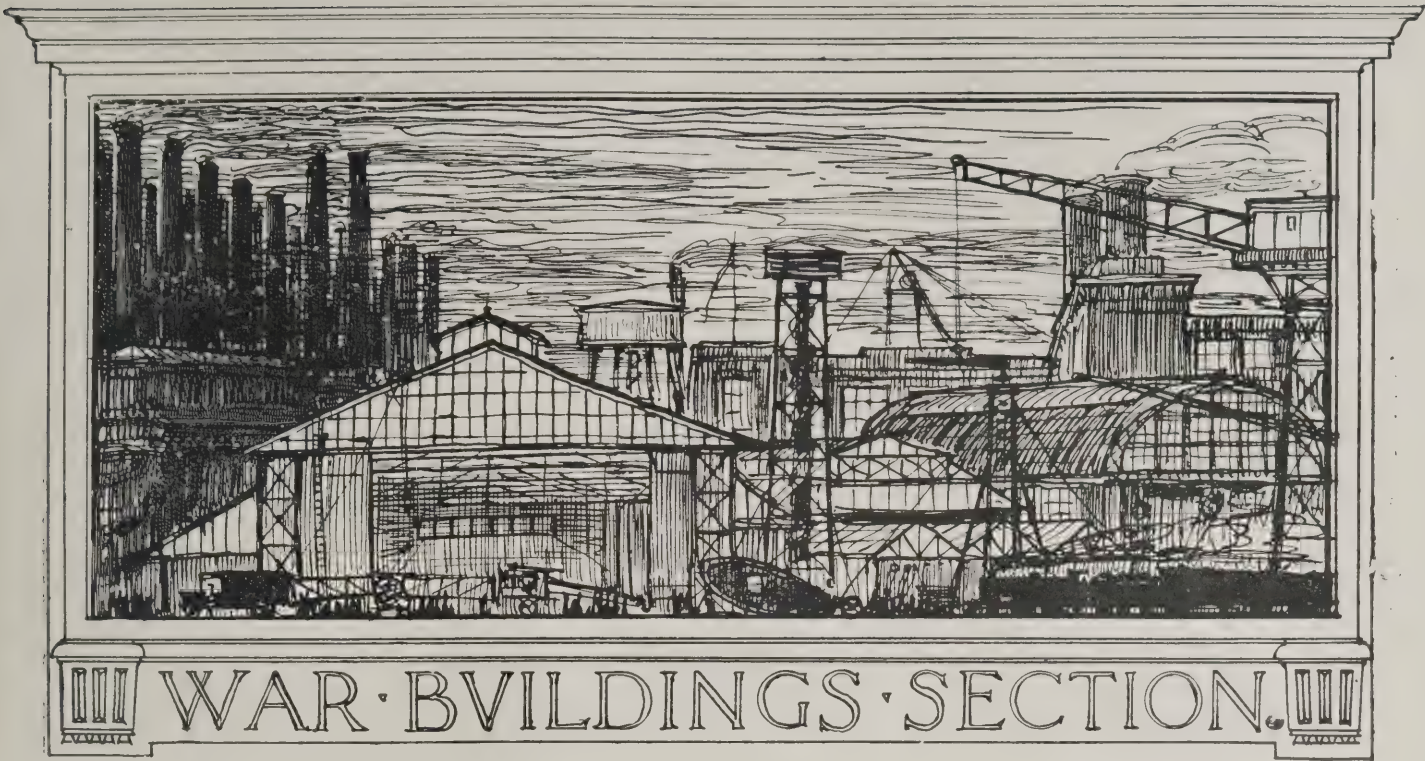
34. *All Zinc Job.*—The work is to be painted throughout with leadless paint, and is to receive four coats, the knotting and stopping being done as described in paragraphs 28, 29. The first two coats are to be done in lithopone mixed with leadless driers, and the same proportion of oil and turpentine as already mentioned. The third coat is to consist of zinc oxide mixed with 50 per cent. pale boiled oil and 50 per cent. of turpentine, and sufficient cobalt or manganese drier. The finishing coat to be mixed genuine zinc oxide mixed with 80 per cent. pale boiled oil, 75 per cent. of pale copal mixing varnish and 5 per cent. turpentine.

*ALTERNATIVE.*

35. *Enamel Finish.*—The work is to be brought up exactly in the same manner as described in the last paragraph, but the finishing coat is to be "—" enamel (outside quality).

(To be continued.)





A STORAGE BUILDING FOR GRAIN.

WHEN Messrs. J. D. Taylor and Sons, of Bath, decided to erect a new storage building for grain, they required that the walls should be composed of materials through which the grain could not draw moisture. It appears that within their experience the trouble indicated had arisen even with stone-built buildings, but after considerable investigation they decided to adopt reinforced concrete, which has so far proved satisfactory.

The building is 56 ft. by 28 ft. in plan, composed of ten bins in two rows, with a capacity for 1,300 tons of grain, and 64 ft. in height from the ground level. The bins are 44 ft. deep to the mouths, and over them is a floor, also designed for the storage of a further supply of grain. A cornice runs entirely round the building at the level of this floor, and this, with the wall buttresses on the road and river fronts, gives a pleasing finish to the work.

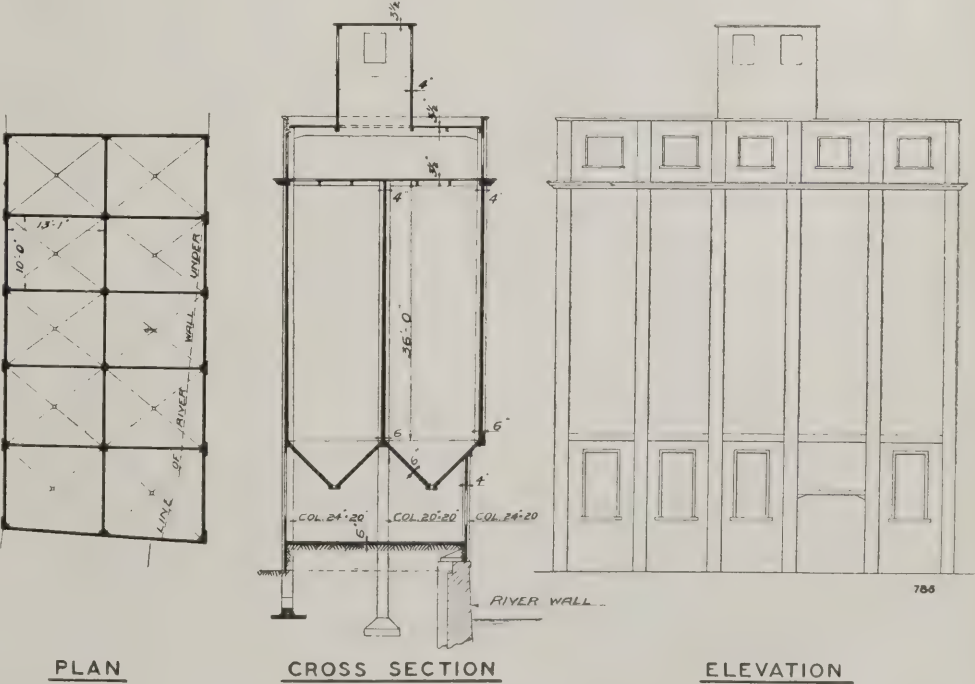
The structure is carried on three rows of columns, 24 in. by 20 in., resting, on the Lower Bristol Road side, on a strip footing 5 ft. wide; in the centre, on blob footings 5 ft. square; and, on the river side, on footings 4 ft. by 3 ft. direct on the river wall, which can be seen in the plan and cross-section here shown (for other illustrations, see pages 34 and 35). The main beams are 18 in. by 8 in. in section, and the secondary beams range down to 8 in. by 6 in., according to requirements. The walls of the bins, both exterior and interior, are 6 in. thick, and the hopper bottoms are formed 6 in. thick, with mouths 4 in. square. It will be noticed that the owners were able to obtain considerably increased storage space at a very slight extra cost by overhanging the river-side bins, the overhang being 6 ft. at the end of the building nearer the camera, tapering to zero at the further end.

The grain is delivered to a loading platform at the ground level from wagons, and is then automatically weighed and carried to the top of the building by elevators. In

the room at the top of the building is a revolving distributing apparatus under the control of an operator in the basement, and by these means any one silo can be discharged independent of any other.

The loading platform is placed 8 ft. below the mouths of the bin. The building has been tested, and, as before stated, has been found eminently satisfactory. The architect for the work is Mr. S. J. G. Stone, of Bath, and the general contractors are Messrs. Haywood and Wooster, also of Bath.

Diagrams showing plan, cross-section, and elevation appear below. On page 34 a photographic view of the completed building is given, and on page 35 a photographic view of the work in progress shows the hoisting tower and chute for distributing the concrete to the different points at which it was in demand as the work proceeded. Although such time- and labour-saving devices are no longer novel, it is still worth while to draw attention to them. They should be in much more general use than they have been hitherto.



A STORAGE BUILDING FOR GRAIN, BATH.

S. J. G. STONE, ARCHITECT.



## THE AMERICAN CHEAP SMALL HOUSE.

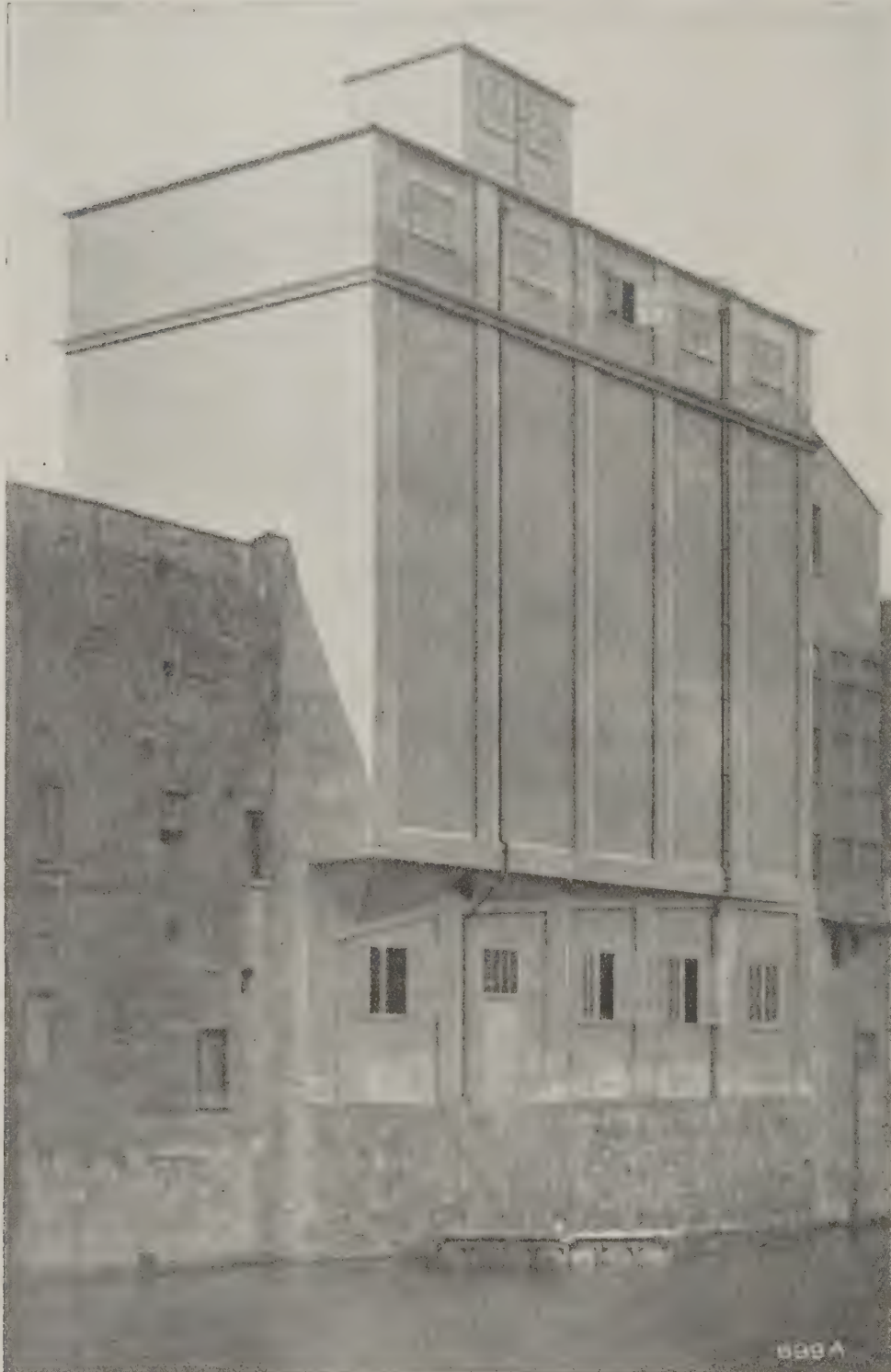
A writer in the "Daily Mail" of July 12 gives a most alluring description of the American cheap small house. He relates how, with courage worthy of his calling, a professor in one of the U.S.A. universities, forced to accept the usual shameful salary offered to men of mind the world

over, moved into one of the model houses built for working men's families. He adds:

It is one of the most successfully arranged interiors from the point of view of comfort and simplicity that could well be imagined, and after struggling for years with the quaint conceptions of European builders I could almost forgo their charms for the convenience of a workman's model cottage. It is very much in miniature, to

be sure, but what more could a professor expect for £3 a month within walking distance of a great city university?

The flower-boxes that greet one at the entrance are part of the property, and their perforated zinc bottoms drain the moisture on to tiny flower-beds beneath. Inside, a simple hat-rack (for so it calls itself in the United States) has become part of the wall; the space under the narrow stairway is an umbrella-stand. The vestibule floor



A STORAGE BUILDING FOR GRAIN, BATH.

S. J. G. STONE, ARCHITECT.

(See page 33.)

is concrete, the others all yellow pine-boards requiring oiling only, or rugs; there is nothing so unhygienic as a carpet in so small a space.

To the right is the professor's living room — this, in some workmen's economics, might be regarded as the "Sunday room." The simple mantel-piece, the permanent book-shelves, the window-seat and inside shutters have saved some furniture.

In the dining-room the dresser and cup-racks make it possible to carry on with only the addition of table and chairs.

The kitchen is a dream for a happy housewife; a permanent coal-stove attached to a boiler which supplies the entire house with hot water is the main feature, but space is allowed for a gas range for the summer months, for, of course, there is gas throughout the house, including the cellar. A drain-board for dishes is hinged to a model sink, and on lifting this board a stationary wash-tub is revealed, with its taps and drain. On the concrete cellar floor is the usual heater—the furnace fire—with its fittings and flues which carry the heat to every room in the house.

Upstairs there is a complete bathroom. The bath is at last taking its proper place in the home life of the world at large. It took an interminable time to wedge its way into the heart of things, but to-day the several bedrooms are ranged round it, giving equal opportunity to every member of the little family. There are no dark bedrooms in the American small house, and each one has its built-in wardrobe, which helps us to forget a none-too-distant time when so-called poor families hung their clothes at the back of a kitchen stove around which they huddled to keep warm.

This, the writer declares, is a fair sample of the cheap small house built all over the United States, and there is no reason why it should not be imitated here.

## LEGAL.

### Big Building Claim: Hotel Construction.

*Moore and Davis v. Pile.*

June 24. Official Referee's Court. Before Mr Pollock.

In this action Messrs. Moore and Davis, the trustees for Messrs. Allen and Co., builders, claimed from Sir Thomas Pile for work done in the construction of the Rubens Hotel, in the Buckingham Palace Road, under a contract.

Mr. A. A. Hudson, K.C., with Mr. Newman, appeared for the plaintiffs, and Mr. Cyril Atkinson, K.C., with Mr. Hall, were for the defendant.

Mr. Hudson, opening the case, said that the action arose out of a contract dated September 24, 1912, varied by a supplementary contract of June, 1913. The contract was for building on a site in the Buckingham Palace Road of the Rubens Hotel, with some shops under it and a studio over it. The plaintiffs were the trustees of Allen and Co., builders, and the defendant was Sir Thomas Pile. The contract contained a clause enabling the contractors, in case of non-payment of any certificate, to determine the contract, and recover for all the work executed. The plaintiffs' first claim was upon a certificate of January, 1914, and there were alternative claims for work done under the contract. The amount of the contract of September, 1912, was £40,128 5s., and completion was to be June 27, 1913. In January considerable changes were made in the plans, and the whole scheme was more or less altered. As the work went on the contractors had great difficulty in getting paid. Figures were produced by the defendant which showed that there was £2,000 retaining money in hand and £1,000 actually due to the contractors.

Mr. Moore therefore decided to carry on and complete the work. The alterations at this time had become so extensive that complaints had to be made, but Mr. Moore, nevertheless, completed the work. During the whole of this time Mr. Moore, his counsel (Mr. A. A. Hudson) alleged, had never received a penny for the work done, and he had spent upon it some £4,000 or £5,000. All that had been received was £1,304, which was ear-marked for sub-contractors. After great efforts, counsel proceeded, Mr. Moore on January 29, 1914, received a certificate for £1,000, half the retaining money, and that certificate up to the present time had not been paid. More than that had been paid into Court on the amended defence, but up to the date of the writ he had not received the amount of the certificate. One excuse or another had been made for the non-payment of the £1,000. The additions amounted to £13,712 and the omissions to £8,657. These were undisputed figures, but there were others upon which they were claiming. To add to the difficulties with which Mr. Moore had to contend when the accounts were completed by the surveyors there were matters in dispute, and the architects refused to deal with the matter until the disputed items were agreed. Sir Thos. Pile, soon after the date of the bankruptcy, began to pay Mr. Moore upon the certificate of the architect; but instead of going on with it he promised to pay the sub-contractors himself. According to his own pleadings he

still owed the quantity surveyor £286 5s. 8d. On April 18, 1917, the plaintiffs issued their writ, and the first thing the defendant did was to try to stay proceedings and go to arbitration. On December 31, 1917, nearly four years after the certificate had been given, he paid into Court £337 1s. 11d., but when the plaintiffs applied for particulars he paid into Court a further sum of £2,362 18s. 1d., which brought the amount paid in up to £2,700. He also set up a claim for damages for breach of contract.

A large number of witnesses were called in support of the plaintiffs' case, which was brought to a close on the fifth day of hearing, the Official Referee reserving his judgment.

## NEWS ITEMS.

### Permits for Release of Cement.

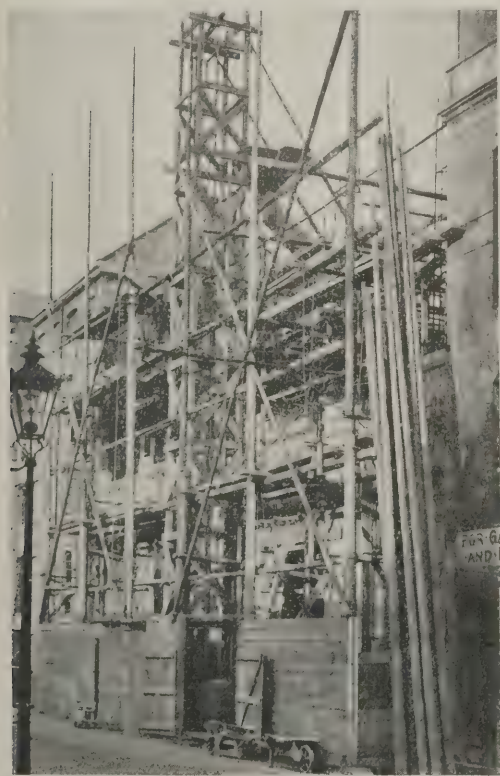
The Secretary of the War Office announces that permits for the release of cement will be issued by the Director of Army Priority (D.A.P.3.C.), Caxton House, Tothill Street, S.W.1. Applications for permits should be made by the firm or persons requiring to use the cement, and not by the manufacturer or merchant. The quantity required, the purpose for which it is required, and the name and address of suppliers, must in every case be stated.

### Forthcoming Book by Mr. J. A. Gotch.

The early publication is announced of an important book on "The English Home from Charles I. to George IV.," by Mr. J. Alfred Gotch, F.S.A., F.R.I.B.A., through Messrs. B. T. Batsford, Ltd., High Holborn. The volume treats of houses, interior decoration, and garden design, and is very fully illustrated. It is uniform with the author's earlier book on "Early Renaissance Architecture," and in the two works Mr. Gotch covers the whole course of evolution of the English house from the time of the Tudors to the end of the eighteenth century.

### A Lady Doctor on Housing.

Dr. Marion Phillips was the lecturer to wounded and convalescent soldiers at the Manor Gardens Annexe of the Great Northern Central Hospital on June 28, choosing for her subject "Housing." She pointed out that while building had been falling behind before the war, it has now practically ceased, so that the shortage has become a famine, and a reasonable relief of the dreadful overcrowding—bad enough before the world catastrophe, almost intolerable now—can hardly be looked for till three or four years after the war ceases. Such relief cannot be brought about unless the problem is boldly tackled, both by the Government and by the local authorities. The scarcity of building material will make Government control a necessity. After a few more remarks on the general question of providing a sufficient number of houses, Dr. Phillips dealt with the things that are wrong and wasteful in the great majority of working-class houses to-day—the crowding together, no space at the back, bad lighting of living-room, inconvenient sinks and ranges, etc., etc. She then dealt shortly with town-planning and with the communal and social side of town life. The whole problem is complex and difficult, and possibility of reform depends as much on land as on any other factor. The interest taken by the men was evidenced by the questions they asked the lecturer, whom they invited to address them next session.



GRAIN STORAGE BUILDING, BATH: SHOWING HOISTING TOWER AND CHUTE FOR DISTRIBUTING CONCRETE.

S. J. G. STONE, ARCHITECT.

(See page 33.)



## THE SURVEYORS' INSTITUTION.

*New Honorary Secretary.*

Mr. Arthur Norman Garrard, Fellow, of the firm of Messrs. Daniel Smith, Oakley and Garrard, 4 and 5, Charles Street, St. James's Square, S.W.1, has been elected honorary secretary of the Institution, in the place of the late Mr. Percivall Currey. Mr. Garrard was Professional Associate of the Council from 1899 to 1904.

*The Taxation of Woodlands, Schedule B.*

In May last the Council of the Institution approached the Chancellor of the Exchequer with the object of urging an amendment of the Finance Bill, 1918, for the purpose of relieving woodlands, etc., from assessment to income tax, Schedule B, at double annual value. Their representations proved successful, a proviso being added to Clause 21 of the Bill enabling exemption from the double tax to be obtained on certain conditions in respect of land not occupied for purposes of husbandry. The following circular to members of the Institution has since been drawn up, and it is desired to draw their attention to the important further concession contained in Mr. G. R. Hamilton's letter of June 29. It will be noted that when lands are already scheduled as woodlands, shrubberies, policies, the assessment will normally be made on that basis, and owners, agents, and others will therefore as a rule be relieved from the necessity of making application for these lands to be assessed at the lower rate.

12, Great George Street,  
Westminster, S.W.1.

*Taxation of Woodlands, Gardens, Policies, etc.*

The attention of members is drawn to Section 21 of the Finance Act, 1918, under which, as originally drawn, it was proposed to increase the assessment for income tax, Schedule B (i.e., on the profits of occupation), on all lands to an amount equal to twice their annual value. It was, however, pointed out to the Chancellor of the Exchequer that such an additional burden would fall with special severity on woodlands and other land, such as gardens, shrubberies, etc., bringing in but small return.

As a result of these representations a proviso was added, during the passage of the Bill through Parliament, to the effect that where it is proved to the satisfaction of the Income Tax Commissioners that any person assessed in respect of the occupation of land is not occupying such land for, or mainly for, purposes of husbandry, he shall continue to be assessed for Schedule B on the annual value only, unless the Board of Agriculture certify that the use of the land for purposes other than husbandry is unreasonable.

There seemed reason to fear that this proviso might necessitate owners having to make special claims to the Commissioners in respect of all woodlands and other lands coming within the terms of the proviso, thereby throwing a large amount of unnecessary labour upon both agents and the Inland Revenue staff. The chairman of the Inland Revenue Commissioners was therefore approached with the object of securing that land already scheduled as woodland, etc., and known, therefore, not to be used for purposes of husbandry, should continue to be assessed at the old rate, unless there were some reason to suppose that the Board of Agriculture certificate, if asked for, would be

refused. In reply to this proposal the following letter has been received:

Board Room, Inland Revenue,  
Somerset House,

June 29, 1918.

Dear Sir,—In reply to your letter of the 24th instant, I am directed by the Chairman of the Board to say that, in regard to lands which are in fact used for purposes other than husbandry, sufficient information would in most cases be available to render it unnecessary for the taxpayer to make any application to the Income Tax Commissioners with a view to assessment to Income Tax, Schedule B, on the single annual value. The assessment, in such circumstances, would normally be made on that basis without any application.

Notice of assessment will be issued in all cases, so that, if in any instance a difference of opinion should arise, the taxpayer will have an opportunity, whether or no he has made any prior application, to raise the matter by way of appeal.

Yours faithfully,

G. R. HAMILTON.

A. Goddard, Esq.

*Building Material Supply Committee.*

Messrs. Geo. Corderoy, J. W. Hurrell, and Wm. Woodward have recently given evidence before the above Committee on behalf of the Institution.

*Acquisition of Land Committee of the Ministry of Reconstruction.*

Mr. J. H. Oakley, president, with Messrs. Thos. Binnie, A. L. Ryde, Edwin Savill, and J. D. Wallis, have given evidence before the above Committee on behalf of the Institution.

## R.I.B.A. EXAMINATIONS.

## THE FINAL: ALTERNATIVE PROBLEMS IN DESIGN.

*Instructions to Candidates.*

1. The drawings, which should preferably be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education, Royal Institute of British Architects, 9, Conduit Street, W., on or before the dates specified below.
2. Each set of drawings must be signed by the author, and his full name and address, and the name of the school, if any, in which the drawings have been prepared, must be attached thereto.
3. All designs, whether done in a school or not, must be accompanied by a declaration from the student that the design is his own work and that the drawings have been wholly executed by him. In the preparation of the design the student may profit by advice.
4. Drawings for subjects (a) are to have the shadows projected at an angle of 45 degrees in line, monochrome, or colour. Drawings in subjects (b) are to be finished as working drawings. Lettering on all drawings must be of a clear, scholarly, and unaffected character.

*Subject XL.*

(a) A Memorial Public Fountain: Drawings, plan, and elevation to  $\frac{1}{2}$ -inch scale with full-size details.

(b) Factory to hold 300 hands—in the London district—to conform to the Factory Act and to all local conditions. Buildings to contain engine house and general office, mess room for hands, and show-room, lavatory accommodation. Lifts for raw materials to top of building, packing room with due access to road and railway. Show possible extensions outside for future developments.

*Subject XLI.*

(a) Artist's Studio and House on an Island in a Lake: Drawings, plans, elevation, and section to  $\frac{1}{2}$ -inch scale and 1 sheet of details to  $\frac{1}{2}$ -inch scale.

(b) Dairy for a Large Country House: Drawings, plan, 2 elevations, section to  $\frac{1}{4}$ -inch scale, with any details to  $\frac{1}{2}$ -inch scale.

*Subject XLII.*

(a) The first floor of a City Office is used for Board-room, chairman's room, chairman's lavatory, and staircase. Size of building between walls, 30 ft. by 17 ft. 6 in. Building lighted front and back. Give plan and section to  $\frac{1}{4}$ -inch scale, also section through board-room and staircase landing to 1-inch scale with full-size details.

(b) A gentleman farmer has decided to build a Pair of Cottages for his head gardener and head stableman at a cost of about £500, the paid pre-war prices. Required plan, elevation, and section to  $\frac{1}{4}$ -inch scale, working drawings. Cube out the building and show how you work out the cost.

*Dates for Submission of Designs in*

1918-19.

	Subj. XL.	Subj. XLI.	Subj. XLII.
United Kingdom ...	Aug. 31	Oct. 31	Dec. 31
Johannesburg ...	Oct. 31	Dec. 30	Feb. 28
Me'bourne ...	Nov. 30	Jan. 31	Mar. 31
Sydney ...	Nov. 30	Jan. 31	Mar. 31
Toronto ...	Sept. 30	Nov. 30	Jan. 31

## HOW TO READ AN ELECTRIC-LIGHT METER.

In our issue of May 8, page 218, we gave a diagram of a gas meter index, with instructions for reading it. By the courtesy of the British Thomson-Houston Co., Ltd., of 77, Upper Thames Street, E.C., we now reproduce, from their leaflet entitled "Hints to Electric Light Consumers," a diagram of electric light meter dials, together with the following instructions for reading them:

In order to be able to watch his consumption, and thus to ascertain from time to time whether he is keeping within the prescribed limits, every user of electric light should make himself acquainted with the instrument which registers his indebtedness to the supply company, and,



incidentally, shows the efficiency or inefficiency of his lamps. In some meters the units are read by observation of the height of a column of liquid. Others are graduated to register the number of units direct, and are thus very simple to read, but the majority of electric meters employ a series of indicator dials similar to those shown in the diagram.

Of the four dials, the right-hand one may be disregarded, as it only registers tenths of a unit. The reading shown on the other three dials (in a large meter there might be four or five) is 428. It should be noted that the hands of these dials do not all move in the same direction—one moves clock-wise, the next anti-clock-wise, and so on. In reading the meter, one should start with the "hundreds" dial and, unless the hand is dead on a particular figure, take the lower of those it is between—in the present case it is 4. Reading the three left-hand dials in this way, we get the figures 4, 2, and 8, showing that a total of 428 units of electricity have passed through the meter.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

JULY 24, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1229.

## NATIONAL PAPER ECONOMY.

*Owing to the very necessary Government restrictions on paper supplies, all elements of waste must be rigorously excluded. Our readers, we are sure, will gladly assist in promoting this object, which is an item in national economy. They can co-operate with us effectually in either of two ways—(1) By placing a direct subscription for this Journal, or (2) by placing with a newsagent an order for its regular delivery.*

*The Government Paper Controller has strictly forbidden the return of unsold copies of newspapers and periodicals to the publishers. Newsagents are therefore now keenly interested in the elimination of the casual customer, and are morally compelled to obtain only those papers that have been previously ordered. This fresh development strongly emphasises the foregoing advice to place a direct subscription or to give a newsagent a standing order for regular delivery.*

WHO was the first American professional architect, and how did he qualify for that distinction?

A writer in our New York contemporary "The Architectural Record" will not accept unreservedly the claim that has been put forward for Peter Harrison, about whom there have been many misstatements. It has been said, for example, that Harrison was a pupil of Sir John Vanbrugh, and assisted him in the building of Blenheim. Harrison, it turns out, was only ten years old at the time of Vanbrugh's death. Mr. Charles Henry Hart, a member of the Massachusetts Historical Society, has made a painstaking investigation of the available documents relating to Peter Harrison's career, and finds that Harrison, who was born on June 14, 1716, and was the son of Thomas Harrison, jun., and Elizabeth Denison Harrison, of York, went to America in 1745, in which year his brother Joseph was Comptroller of the Customs at Boston. On September 28 of this same year, the Assembly "voted and resolved that his Honor the Governor be requested to send for Messrs. Joseph Harrison and Peter Harrison, who have presented this Assembly with a handsome draught of Fort George and the harbor of Newport, very ingeniously drawn, and give them the thanks of this Assembly." A month later the committee was requested by the Assembly to procure another draught or plan of the harbour, and also to procure a piece of plate to the value of £75 "and present the same to Mr. Peter Harrison for his trouble in surveying and making a draught of said fort and harbor." In 1748, either Peter or his brother was commissioned to design the Redwood Library; or perhaps they did it jointly—the point is of no importance in comparison with the fact that the library was "a monument to the Classic Revival, and an enviable example of careful study on the part of its designer." Peter Harrison was, then, a pioneer in the great Classical movement which has produced so many fine buildings in America. He was also the author of plans for the rebuilding of King's Chapel, Boston, Mass.; of the designs for the Market House which afterwards became the city hall at Newport; of the Jews' synagogue in the same town; and of Christ Church, Cambridge, Mass. He died on April 30, 1775. An odd observation on him by the writer in our contemporary is: "Peter Harrison's architectural

work was not so pressing but that he could also function as a dealer in molasses, mahogany, wines, and rum." Whether he "functioned" simultaneously in these heterogeneous fluids and solids is not stated.

\* \* \* \*

Architects, it seems, are aware that "time is money"; which, of course, it is not, but we all know what is meant by an expression that was perhaps originally intended to excite inquiry. At all events, it is good to be assured that "the idea, unfortunately too prevalent, that architects are not keenly alive to the value of time as money is an erroneous one. In most instances the apparent activity of the builders on the work is due simply to the fact that, thanks to the efficient preparation of plans and specifications, the careful forethought by the architects in every detail has made it possible to reach amazing records of construction." This quotation is from "The American Architect," in which it is recorded that architects' offices engaged in planning for the many large industrial housing operations all over the country are setting new records in the prompt and efficient production of enormous numbers of drawings and voluminous specifications. Astonishment expressed by lay newspapers draws from our architectural contemporary the comment that they have "no accurate conception of the complete organisation, in every department and every detail, of a large architectural office." It is excusable ignorance in the lay Press, and we could wish that it did not extend to British architects, who, except for what they read about it, have seldom any adequate conception of the businesslike organisation and equipment of a large American architectural office.

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For swift and efficient draughtsmanship Britons are easily able to hold their own; but in order and system the large American office is, we suppose, unrivalled. Whether the subdivision and specialisation involved in the more highly developed system is good for draughtsmanship is open to question; but there can be no doubt that it makes for speed; and in war-time, at all events, speed is valuable, although at other times the necessity for it is much less obvious; while the "value" is a purely commercial asset or assumption, leaving artistic quality negligible. In the work of the drawing-office, however, there is much that is merely mechanical routine, set-square and compass work, and in this country the provisions for doing it well and quickly are not so complete as they are in America: for example, we have not yet arrived at the refinement of employing a siffleur to whistle lively tunes in order that the speed of the draughtsmen may be correspondingly lively. If this is not a recognised practice among the Americans, they have only their own humorists to blame for circulating the idle rumour. We have, indeed, much to learn from our cousins and allies; and the chances are that if our drawing-offices had been better equipped and organised, much work that is now in the hands of "specialists" would have remained with architects. It must be admitted, however, that in America this effect has not been very marked; for there as here architects are complaining bitterly of the competition of engineers for architectural work, and, assuming that over there highly organised drawing-offices are the rule rather than the exception, it is plain that they are not a specific remedy



for the complaint. We have no doubt, however, that they would be an important factor in any well-conceived scheme of curative treatment.

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It seems evident that, with reference to industrial reform, the Government endeavours to practise what it preaches. It is going to Whitleyise the Civil Service; it is setting up industrial councils; and it is about to equip the new Building Trades Employment Exchange, in Tavistock Street, Covent Garden, welfare-wise. Refreshment-rooms and reading-rooms are to be provided, and there is also to be a tool-store. These amenities, it is stated, have been suggested by Lord Burnham's London Building Trades Employment Exchange Committee. Once again, therefore, we have to congratulate the builders on being in the vanguard of industrial betterment. These suggestions are said, in the daily Press, to be "novel." They are, however, merely an extension of features that have been long familiar in the trade. In the working-rule agreements between employers and employed, there is usually some such clause as this: "Provision for Meals, etc.: Employers shall provide, where possible, a suitable place for the workmen to have their meals on the works, with a labourer to assist in preparing them, and shall open the same one hour before starting-time in winter, with similar attendance. N.B.—For carpenters and joiners, in addition to above, provide a lock-up where tools can be left at the owner's risk; a grindstone for the use of workmen." This is taken from the working rules current in London, and has a very obvious relation to the amenities at Tavistock Street. It is delightful to note this step towards the humanising of the Labour Exchanges, and, through them, of industrial conditions generally. There is, of course, some slight danger that these privileges may be abused, but that consideration is greatly outweighed by the obvious advantages, spiritual as well as material, of recognising the duty of hospitality.

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Birmingham is to be this year the scene of the summer meeting of the National Federation of Building Trades Employers of Great Britain and Ireland, which is to open at the Grand Hotel, Colmore Row, on Tuesday, July 30, at 10.30 in the forenoon, with the deliberations of the Council, whose recommendations will be submitted to the general meeting which will begin next day at the same hour and place. Housing naturally takes a foremost place in the agenda, the text of the discussion being a resolution sent up by the Midland Federation urging that the Local Government Board should grant facilities to private enterprise for the erection of houses for the working-classes, and that the National Federation should indicate the lines on which such assistance could be given. As this resolution gives a practical turn to what was previously but little more tangible than a floating notion, it will no doubt go forward. Other matters that are set down for discussion refer to the rates that are being drawn by accident insurance companies; to the vast amount of unremunerated clerical work that business firms are required to do for the Inland Revenue authorities; to the conduct of building immediately after the war; to military service and the proposed new list of certified occupations; to the report of the pre-war contracts committee; and to an important question of adjustment of wages and war bonus.

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Birmingham is not quite so interesting either scenically or historically as most of the towns that have been visited by the National Federation in its summer excursions; but, as one of the four most populous and most important towns in England it has much to show that will abundantly reward examination. As a chief seat of the metal industry it should have a special

attraction for builders, who, when the war is over, will be more than ever dependent on steel and iron, copper and brass, zinc and tin, for structural and decorative uses. It has almost a monopoly of the screw trade, makes enormous quantities of nails, and is renowned for its brass and its glass. For small arms, steel pens, jewellery, and hardware generally, Birmingham is ahead of all rivals. A picturesque writer has said of her: "We cannot move without finding traces of the great hive of metal makers—the veritable descendants of Tubal-cain. At home or abroad, sleeping or waking, walking or riding in a carriage or upon a railway or steamboat, we cannot escape reminiscences of Birmingham. She haunts us from the cradle to the grave. She supplies us with the spoon that first brings our infant lips into acquaintance with 'pap,' and she provides the dismal 'furniture' which is affixed to our coffins. In her turn Birmingham lays the whole world under contribution for her materials. For her smiths, and metal-workers, and jewellers, wherever Nature has deposited stores of useful or precious metals, or has hidden glittering gems, these industrious miners are busily digging. Divers collect for her button-makers millions of rare and costly shells. For her, adventurous hunters rifle the buffalo of his wide-spreading horns, and the elephant of his ivory tusks. There is scarcely a product of any country or any climate that she does not gladly receive, and in return stamps with a richer value." In normal times, members of the Federation would no doubt have been welcomed as visitors to the factories and workshops of this great hive of industry; but probably very little else but munition work is now going forward, and to this the invitations to visitors are not scattered broadcast.

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Birmingham certainly has an industrial history. One instinctively associates it with the invention of the steam engine by James Watt, whose private workshop at Heathfield is still preserved, we believe, exactly as he left it. Baskerville, the writing-master and tombstone letterer, who further developed his special gift by becoming one of the greatest of type-founders, had his business in Birmingham. Murdoch, the inventor of gas, first used this illuminant to light his factory at Soho in 1802. Thomas Rickman, F.S.A. (born 1776, died 1841), the reviver and historian of Gothic, practised in the town, although he built churches all over the kingdom. His "Attempt to Discriminate the Styles of English Architecture" was probably written in Birmingham, although it was first issued in volume form in 1817, four years after he had been elected Professor of Architecture in the Liverpool Academy. Mr. J. Thackray Bunce, who wrote the excellent article on Birmingham in the "Encyclopædia Britannica," recalls that the city was amongst the earliest places to establish a mechanics' institution, which has since culminated in the Midland Institute. With respect to this institute, Federation members will be keen to note that the Act of Parliament by which it was established provides that the governing council shall always include artizan members. This is an early approach to the Whitley principle, as adopted in the Builders' Parliament. For Birmingham it is also claimed that it was the birthplace of the freehold land and building societies by which workmen were enabled to acquire on easy terms houses of their own. Although most of its buildings are quite modern, Birmingham is one of the oldest towns in England—was a community in Saxon times. Edgbaston, the wealthy quarter of the town, is a fairly early example of a phase of town-planning, for strict rules were enforced by the land-owner as to the class, position, and size of the houses to be erected on his estate.



## HERE AND THERE.

IT is announced that the scheme for widening the Strand near Wellington Street has been completed, and that the actual work awaits only a favourable opportunity. Town-planners are not likely to get delirious with enthusiasm over this item of news. They have, I imagine, given up the Strand as hopeless. They do not greatly care what happens to it. Millions have been lavished on its "improvement," with the result that the layout is the worst in the world. It represents an unexampled opportunity gloriously muddled. Only England—nay, only London—can boast of such a valiant defiance of common sense. Truly we are a most wasteful people: and it will be observed that our most flagrant deeds of wastefulness are usually effected in the name of economy. It was so in the case of the great Strand-to-Holborn improvement scheme. It was ruined in the sacred name of the ratepayers; for it is safe to say that every penny saved the individual pocket has involved an incalculable loss to the community—a loss not merely in amenity, but in hard cash. A magnificent Strand would have been the beginning of the grandest city in Europe; and the reputation of a capital for beauty, salubrity, convenience, is of untold value if only from the business point of view. How can foreigners think of us as being otherwise than dull and stupid when we fool away so great an occasion?

Nothing that can now be done to the Strand will redeem it from its come-by-chance appearance. Widening may be a convenience for road traffic; but, unless the scheme include the provision of an underground crossing, the danger to pedestrians, already appalling, will be increased beyond human sufferance. A minor evil is that persons walking westwards towards Charing Cross station often miss a train because the flood of traffic along Wellington Street keeps them waiting on the wrong side of the crossing. Charing Cross Hospital, it is true, is quite near. . . . It was built by Decimus Burton in 1831. It is Waterloo Bridge that tempts all this traffic: a good bridge, but ill named, although it leads on to Wellington Street, which foolishly tries to be on both sides of the Strand at once. No really respectable street would attempt this impossible feat. There was a time when it seemed likely to get the more appropriate and less invidious name Strand Bridge. This would have been the revival of an old name—not of a bridge crossing the Thames, however, but of a small structure crossing one of the several small tributary streams that ran across the Strand to empty themselves into the river. Strand Lane, a winding alley near Somerset House, is thought to mark the tortuous course of this stream. Most of the names hereabouts are of genuine significance. There is, for example, Milford Lane, which was exactly what its name implies: once upon a time a mill-stream and a ford were there.

Then one likes to know that Arundel, Cecil, Essex, Exeter, Norfolk, Stanhope, Surrey, and the rest of the street-names hereabouts, all mean something—were not bestowed casually, but for some specific reason, for good consideration. Often the name is of very respectable antiquity, long antedating your ultra-modern and highly invidious Waterloos and Wellingtons and Trafalgars. Take Essex Street for example. It occupies ground that was once part of the Outer Temple, and belonged to the prior and canons of the Holy Sepulchre, who in the reign of Edward III. handed it over to the bishops of Exeter, who built there a town residence, which was called Exeter House. In 1326 Walter Stapleton, Bishop of Exeter and Lord

Treasurer of England, gallantly held the house against Queen Isabella; but the citizens of London marched on it from Cheapside, burnt down the gates and plundered the house. Bishop Walter fled to St. Paul's for sanctuary, but at the north door he was pulled off his horse, stripped of his armour, and dragged into Cheapside, where his head was cut off and set upon a pole. His body was buried beneath a heap of rubbish near his own gateway at Exeter House.

It became Essex House when the Earl of Leicester bequeathed it to his son-in-law Robert Earl of Essex, who made it the rallying-place of malcontents. Thence, with about three hundred other gentlemen, he rode forth to rouse the citizens against the Queen's counsellors. At Ludgate he was turned back by the soldiery, and, returning to Essex House, he was there arrested, a gun being mounted on the tower of St. Clement's Church to use against him. That was in February, 1601. On the 15th of the same month he was tried in Westminster Hall for high treason, and on the 25th he was executed on Tower Hill in the good old-fashioned way.

There were other more or less "buggy" happenings at Essex House, which Pepys describes as "large but ugly." It was partly demolished about 1682, and the street inheriting its name was formed about 1684. A builder bought the property; and the houses now seen in Exeter Street were built during the reign of George III. It has been conjectured that the archway and steps at the river end of the street formed the water-gate of old Essex House. Essex Street Chapel, the London headquarters of the Unitarians, stood on part of the site of the house—was said, indeed, to be itself a part of it. At one time (from 1712 to 1730) it had the honour of housing the Cottonian MSS. Essex House has given place to the Essex Hall with which the Ethical Society was long associated. Essex House was in 1761 (so Horace Walpole says) occupied by an auctioneer named Paterson, who there first sold subjects in painted glass, imported from Flanders. On the opposite side of the road, the sedate tavern known as the Essex Head was the home of the club established by Dr. Johnson in 1783, the year before he died. A member who missed a meeting forfeited twopence, and it is said that Reynolds, then grown enormously wealthy, resigned to avoid the awful uneconomy of paying twopence for nothing. With others, however, twopence was not a sufficient deterrent. They stayed away so freely that it was thought expedient to raise the fine to threepence. I doubt whether this was an effectual remedy. I think that the Johnson circle had broken up, and that this Essex Head attempt to revive a flickering tradition was a ghastly failure.

Any really sensible scheme of widening the Strand would make the street follow gracefully the natural curve of the embankment and the river. With Whitehall continued in the same suave sweep, the unfretted Strand would look serenely beautiful on the map. We would sweep away Charing Cross station and the middle of the buildings adjacent to it; and, further eastward, would ruthlessly demolish all the "island" buildings—Australia House and the two churches. I admire these buildings immensely; but I should admire them infinitely more if they had not been made to assume so impudently obstructive a stance. I cannot bear to think of their destruction; but I should shed no bitter tear if they were mounted on wheels or rollers and trundled off to more convenient sites.

DIOGENES.



## COMPROMISE AND CONSTRUCTION.

BY C. H. B. QUENNELL, F.R.I.B.A.

MODERN life might be criticised as the reflection of compromise, rather than an evidence of any recognition of constructive principle. The country is run rather as a gallery of antiques than a modern State. We are more feudal than Germany, and yet expect to be progressive. We talk of compromise as a national virtue, and so long as we do this the constructive principle must remain in the background, because one is the negation of the other.

There was the recent case heard before Mr. Justice Astbury on June 26, when a builder asked for relief in regard to a building agreement for land taken up from the Duke of Westminster. The builder cannot carry out the agreement, because the Government says that he may not build, but by the law of contract he must pay the ground rent. Here is a pretty kettle of fish. The Duke is much annoyed because of a vulgar and embittered attack made on him in the Press—but why take any notice of that? Still this is not so much a matter for concern, as the evidence of an absolute spirit of feudalism existing in the leasehold system. In Scotland they call it by its proper name, and there you "Feu" land. And the system stands across the path of progress. One man can control a large area of London; can and does say exactly the type of houses that shall be built; may demand his pound of flesh, and virtually reign as a king in his area.

There is any amount of tall talk about increasing production; for whom—the ground landlord? Under the leasehold system he takes the lion's share. Again, our system of land transfer was, some years ago, described by a distinguished lawyer as "unique for its futility and costliness," but it still goes on, and we want to improve housing and get people back to the land.

So compromise holds its own, and construction is little understood.

The late Gleeson-White, first editor of "The Studio," and one of the wittiest and most pleasant of men in London in the 'nineties, used to say that all artists should have a preliminary training as architects. The idea, which it is possible to extend, was that even the worst of architects, in designing a building which would hold up, did achieve something, and that a proper observance of the Static laws governing the art of building made for healthy discipline. One might wish that the building would fall down, instead of hold up; yet even the worst of building had something of good in it, and remained worthy of consideration as a job of work.

Gleeson-White saw the painters and sculptors in his time, as ours, divorced from their real function of decorators, playing with fashions and lacking all discipline. He would have liked them to have to make things. The painter may, and perhaps does, show a woman with purple hair, and the jaded populace may be startled, if not convinced, and little harm is done. But if the architect builds on running sand then a very instant retribution follows, and so on all through the job—just a little way behind us is the bad-tempered spirit of structural mechanics, jogging our elbow as a reminder of what one may or may not do.

Gleeson-White held that it was good for us, and made us the fine fellows that we are, or were, and in these days one does not remember any Mr. Aldridge to call us snobs, and Professor Lethaby was kinder.

Part of our propaganda work must be to convince people of this necessity of constructive principle. At the moment we are covering our hoardings with painful reminders of the brutality of the Hun. It would be

a far better work to give a few illustrations of the effect of badly planned towns on our own populace. The Hun is an admitted beast, and there is little need to distil poison out of his doings: let us leave him alone so long as we have verminous children in our elementary schools. Our legislators need coaching in constructive principle.

What is wanted at the moment is a school of thought which will examine all our institutions with a very fair but critical eye; which will look at the fabric of society as a structure, and ascertain whether the cracks are due to settlement by faulty foundation, or the perishing of material in the superstructure.

We need a new science for the rebuilding of society. The Dukes must not mind, and our methods in dealing with them can be tempered with kindness. Like all other institutions, they are being weighed up, and their survival, or relegation, follows on the amount of service they can render to the community. If it is of any comfort to them, let them remember that the architects have been called snobs, and have had to put up with it.

And the great difficulty of it all is that modern life is like a modern town—unplanned and as beastly as modern warfare. Poison gas, flame throwers, and tanks are the parallels of industrialism, slums, and the appalling waste of infant life. For the complexity of things as they are now, the simplicity of the essentials is so overlaid that we are apt to forget them. There is, or should be a constructional principle in all human endeavour: yet the average man has no aim, only an end. *Peur de vivre* takes the place of *Joie de vivre*, and life looks like "crawling up a drain-pipe till you die." Man hates his job because it is no job at all, and gets sulky and discontented, takes to drink, and beats his wife. We have the great hereditary landlords insisting that things remain as they are, and the Law of Contract inferring that ground rents be paid when they cannot be earned, followed, as a logical and instant result, by the South Wales miners passing resolutions which amount to the confiscation of the mines. In the "Daily Telegraph," July 17, 1918, is a note that the A.S.E. "have issued an instruction to all shop stewards not to take part in the formation or working of any committee built on the basis of the Whitley Report, or the ground that the fundamental antagonism of the interest between employer and employed offers an insuperable barrier to any joint control of industry, and that the next step on the road to control by workers is the creation of a strong, co-ordinated, class-conscious movement in the workshops."

In this, though the voice is the voice of the A.S.E., one recognises the hand of the National Guilds League; the phrasing is nearly identical with that contained in the League's Notes for Trade Unionists on the Whitley Report. Herein was stated that "the Whitley Report postulates a fundamental identity of interest between employers and employed, whereas we postulate a fundamental antagonism"—"the Whitley Report aims at a permanent improvement in the relations between employers and workmen, whereas our objects are the abolition of the wage system and the substitution for the capitalist control of industry of a democratic system of National Guilds working in conjunction with the State." The miners' unions are linked up with the railway and transport workers;



*Photo: E. Dockree.*

DOORS AND DOORWAYS. XXI.—DINING-ROOM DOORWAY, ALBEMARLE CLUB (ELY HOUSE), DOVER STREET, LONDON.

SIR ROBERT TAYLOR, ARCHITECT.







DETAILS OF CRAFTSMANSHIP (SERIES III.). XXXIII.—TWO CARVED OAK PANELS. (FRENCH: LATE FIFTEENTH CENTURY.)  
(Reproduced by courtesy of the Director of the Victoria and Albert Museum.)



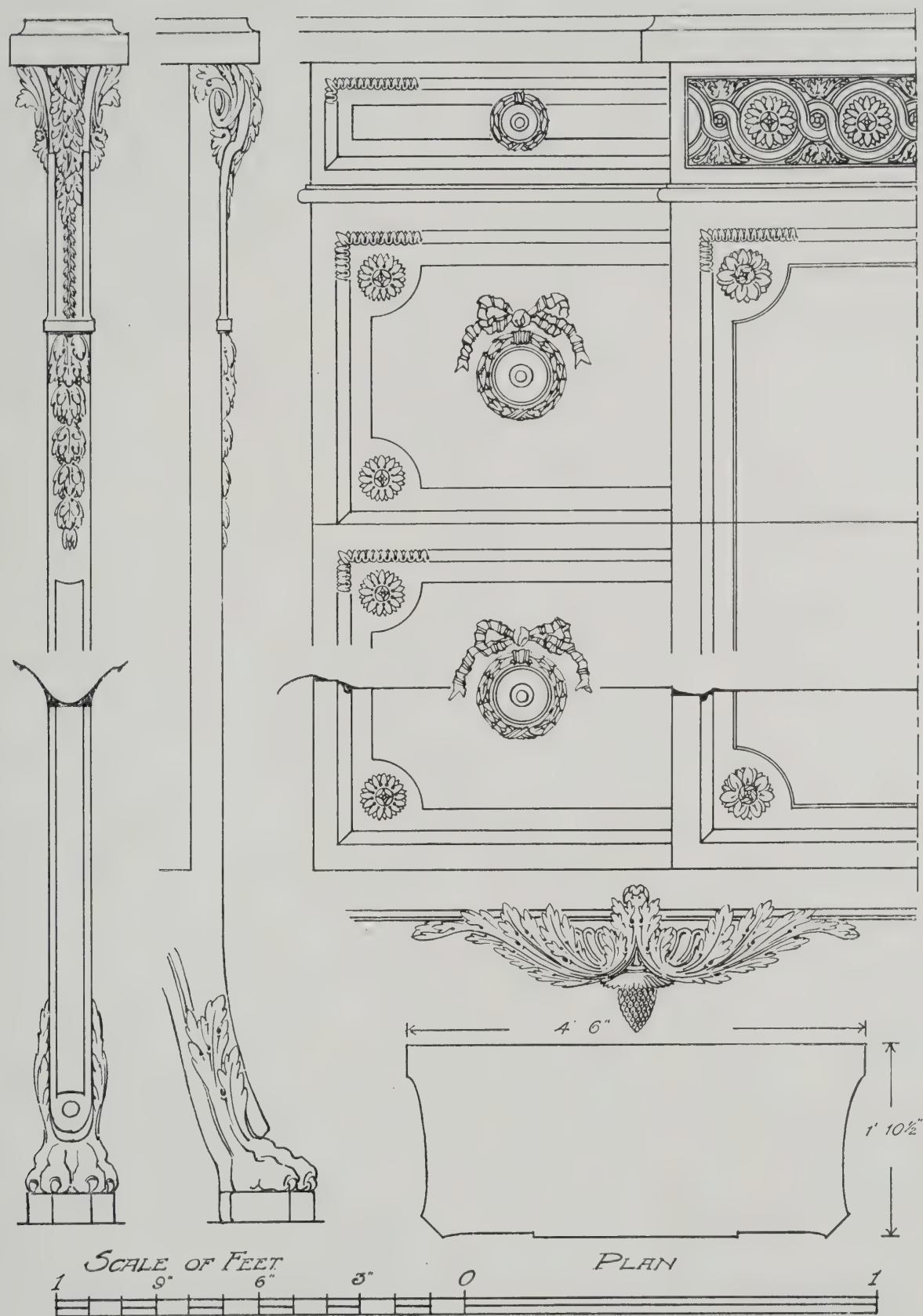




FURNITURE. I.—FRENCH COMMODOE WITH FRAMED MARQUETRY PANEL AND ORMOLU MOUNTS (EIGHTEENTH CENTURY PERIOD).  
(See also following Plate.)







FURNITURE. II.—MEASURED DETAILS OF FRENCH COMMODOE WITH FRAMED MARQUETRY PANEL  
AND ORMOLU MOUNTS.  
(See also preceding Plate.)





ARB





MONUMENTAL ARCHITECTURE (SERIES II.). X

VIGNOLA



VILLA PAPA GIULIO, ROME: GARDEN FRONT.

TECT.





the A.S.E. consider themselves the aristocrats of Trades Unionism, and it cannot be denied that all are strong forces.

So we have landlordism at one extreme standing for feudalism, and the A.S.E., at the other, for something which resembles Bolshevism, and they are interdependent the one on the other. One might say that the feudalism stands for bending moment and Bolshevism for the moment of resistance. So long as B.M. = M.R. the beam will not break, but what is going to happen if the stresses increase, because the beam happens to be all that unfortunate body of moderate people who will have to pay the piper? Are these others to be allowed to monkey about, without any thought of elastic limit, factors of safety, or that ultimate stress which will land us into a ruin like Russia?

In "L'Ile des Pingouins" we are told that "La propriété a pour unique et glorieuse origine la force. Elle naît et se conserve par la force. En cela elle est auguste, et ne cède qu'à une force plus grande. C'est pourquoi il est juste de dire que quiconque possède est noble." Is it inevitable that the question can only be settled by force? because if so the outlook for the future is gloomy. But it cannot be allowed to settle itself in this way, and we need a better conception of nobility. The need is everywhere apparent for planning. Our towns have to be tidied up, and decent houses built for the people. Wider opportunities must be given to men and women: we need to learn the art of living. Muddle must be made to disappear somehow or other, and to do all this privilege will have to have its wings clipped. So monstrous a system as the leasehold one must give way to a saner method of developing land; we cannot continue with a system of land transfer "unique for its futility and costliness," or expect progress if antagonistic interests are to provoke strife.

Which brings us back again to the constructive principle. Our legislators must submit to discipline in this direction. The gardens adjoining the House of Commons might be broken up into allotments, and members required to labour thereon. Good double digging, liberal manuring; plenty of sun and air would be found good for plants—their absence noted as prejudicial. Draw a parallel between a garden and a slum, a little cabbage and a baby, and the value of the allotment to a budding legislator is apparent. On wet days a course of structural mechanics would give just the sort of mental gymnastics calculated to keep them from becoming dull dogs. A consideration of the theorems of the triangle, or polygon of forces might make it feasible to estimate the possibility of controlling forces and maintaining equilibrium. In time the statesman would learn to plot a stress and structure diagram, giving the solution of a problem and handily lending itself to filing in Hansard. The solution could be shown to the House by means of a large statical board occupying the whole of one wall, and with attached pans for all parties, and weights instead of votes. A see-saw would be useful for recreative purposes, and explaining the principles of leverage. If little else was achieved such a course might lead to a wider recognition of constructive principle, and it would tend to approaching in a spirit of fairness the problems which are ahead of us. Dukes and Bolsheviks would be popped into the pans of the enormous statical board, and the value of the forces they represented justly valued. Absolute equity would convince both parties of the necessity for building, and turn them from housebreakers into decent craftsmen.

[Mr. Quennell's suggestions for the reform of Parliamentary procedure are most fascinating, but we can hardly hope to see them materialise at St. Stephen's in the present generation. They would surely be more appropriate to the so-called Builders' Parliament; but in either case the see-saw is superfluous.]

## THE PLATES.

### *Doorway in Ely House, Dover Street.*

ELY HOUSE, Dover Street (now the Albemarle Club), was designed by Sir Robert Taylor at a time when the delightful panelled rooms of the Wren period had gone out of fashion and the craze for plasterwork had come in. Adam's influence is more apparent inside than out. It is to be observed particularly in the dining-room, which, in general character, is almost identical with Adam work. The doorway to this fine room is illustrated in this issue. Some excellent additions to the house have been carried out within recent years from the designs of Messrs. Smith and Brewer, F.F.R.I.B.A.

### *Two Carved Oak Panels.*

These charming little quatrefoil panels are of carved oak, and belong to the late fifteenth-century period of French craftsmanship. Both are carved in bold relief, that on the left with an eagle, the emblem of St. John the Evangelist, holding a scroll, and that on the right with an angel, the emblem of St. Matthew, also holding a scroll.

### *A French Commode.*

The commodes produced in France during the eighteenth century exhibit greater variety in design and construction than any other piece of French furniture. The one illustrated in this issue is a particularly fine example of French cabinet making. The front, skilfully divided, has a panel of marquetry in a frame as the central feature. This gives the relief of an apparent break in the length of the drawers, and affords opportunities for further decoration, by means of ormolu mounts. The ends are curved on plan and panelled, ormolu mounts of a highly decorative design being used to outline the drawers, ends, frieze, and on the legs. The handles are also a conspicuous decorative feature. The top is a marble slab of a good thickness and having a moulded edge. The chasing of the ormolu, as well as the general finish of this example, which is a genuine antique, show it to be the work of the best craftsmen of the period. Further examples of fine furniture, old and new, will be given in succeeding issues.

### *The Villa Papa Giulio, Rome.*

This famous building by Vignola, of which a view of the garden front is shown on the double-page supplement, is described in the note which appears on the following page, whereon is also given a small view of the entrance front.

## CORRESPONDENCE.

### *Rubble Masonry Instead of Bricks.*

*To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.*

SIRS,—With reference to the remarks made in your issue of May 22 as to the high cost of brickwork in building operations undertaken at the conclusion of hostilities, I am one of those who think that the cost of building work could be very materially reduced if rubble masonry were more extensively resorted to. It is notorious that for many years brickwork has been used where it would have been cheaper to use rubble. I suggest, therefore, that a standard specification for rubble work should be evolved; most of the specifications in existence are vague. The co-operation of your readers in stone districts might very well be invited.

P. CALLINAN.

London, W.



## VIGNOLA AND THE VILLA PAPA GIULIO.

OF that famous group of Italian architects who, in the latter part of the sixteenth century, assisted so materially in the full development of the Renaissance, none is more prominent than Giacomo Barozzi, more frequently known as Vignola, from the place of his birth, a little town on the slopes of the Apennines, near Bologna. He was born in 1507, began an extensive practice about 1543, and died in harness in 1573. Between the years 1550 and 1555, or thereabouts, he was engaged on a group of buildings which have largely contributed to his reputation. In the year 1550, Julius III. was elected Pope, and Barozzi was appointed his architect, having known him at Bologna when as Cardinal Farnese he was Papal Legate there.

The Villa Papa Giulio is not quite so familiar in England, perhaps, as others of its class, but it has many unique features. The external façade of the *casino*, or villa proper (see below), is of no special artistic value, representing the least attractive aspect of Vignola's work. The lower stage of the façade is characteristic of his taste for rustication, and the excellent design of the windows should be noted. The upper windows are surmounted by ornamental scrolls and finials, very similar to those used by him on the Portico dei Banchi, at Bologna.

It is, however, the garden front of the villa (see double-page supplement) that is so justly praised by his critics. The originality of the plan, with its concave semicircular loggia, will be noted. The bold and scholarly use of the Orders, arches alternating with columns in perfect harmony, is at least equally noteworthy. For the clear atmosphere of Italy, where every line is sharply defined, there is no more attractive treatment of a country house than this masterpiece.

Vignola was a close student of ancient buildings, and no doubt his books fostered a taste for pedantry; but he himself was never hampered by his books, and was constantly experimenting in his designs. The axial line of the villa is prolonged through a formal garden enclosed by architectural screens, through a loggia, another enclosed court, and thence through a parterre. These successive stages are terraced, as the ground slopes away from the villa. The whole design is of great interest, but it appears fairly certain that Vignola's share in it did not extend beyond the main building.

## CONTROL OF TIMBER: A NEW ORDER

BY the Timber Order, 1918, dated July 16th, the Board of Trade have prepared for the introduction of a rationing scheme for imported softwood timber, which came into operation on July 22nd. A schedule of maximum prices for imported timber will be issued, but will not apply to existing stocks, which will still be subject to the previous regulations as to price. Stocks which under previous regulations may not be sold at prices above those ruling at January 31st, 1917, are to be notified to the Controller of Timber Supplies for his decision as to the price at which they may be sold.

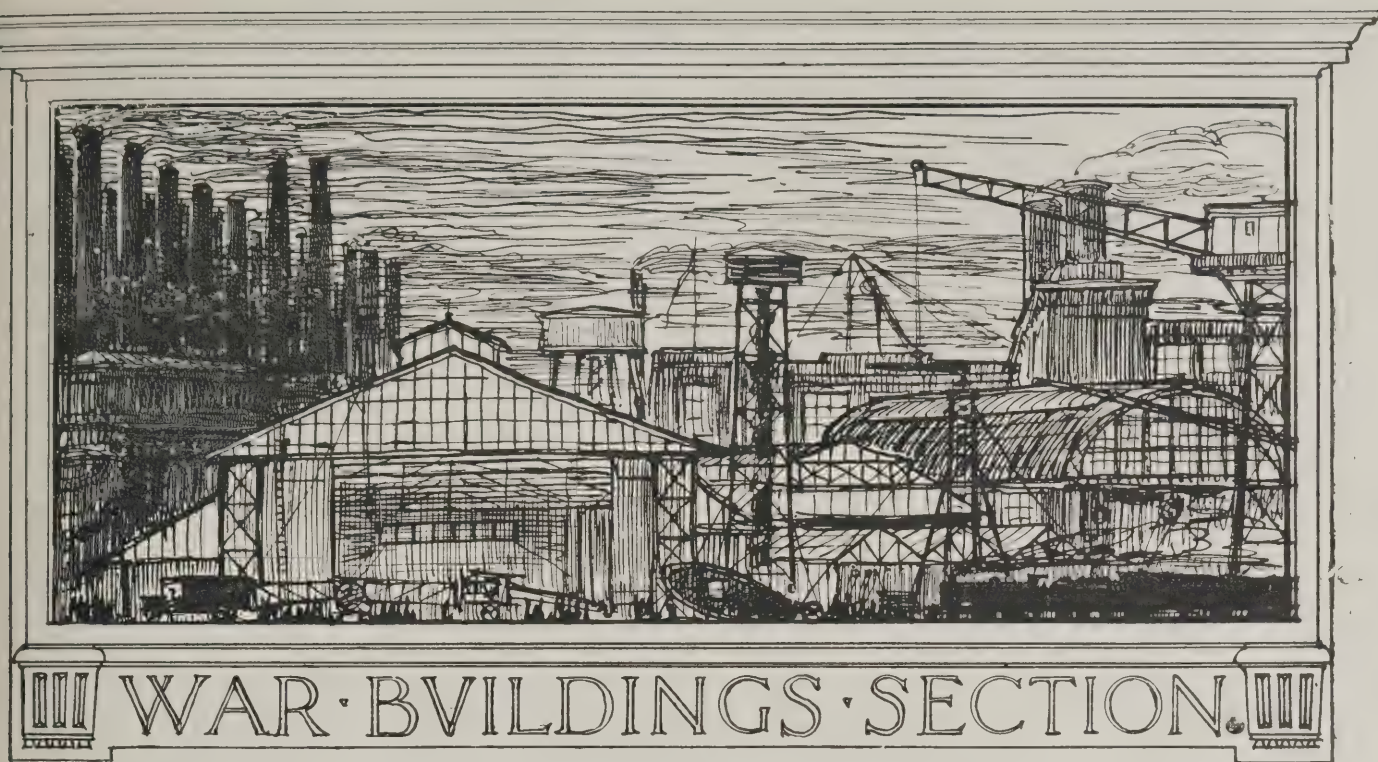
The permit system is extended to home-grown converted timber on lines somewhat similar to those which have for over a year applied to imported softwood.

Other matters dealt with include the position of timber on estates which are about to be sold, also sales of timber by auction and by tender. Particulars of the new form of application for permits for home-grown or imported timber may be had on application to the Controller of Timber Supplies, Branch 2, at 80, Newnham Street, Oxford Street, W.1.



THE VILLA PAPA GIULIO. ROME: ENTRANCE FRONT. VIGNOLA. ARCHITECT.





## A COAL STORE VIADUCT.

THIS viaduct, erected at Grimesthorpe Station for the Sheffield United Gas Company, is about 350 ft. long by 91 ft. wide. It is designed to carry trains consisting of 20-ton engines and 20-ton coal wagons, and has a capacity of 16,500 tons. The viaduct is 34 ft. above the ground.

The main beams, of which a typical detail is shown on page 44, have a span of 33 ft., and the secondary beams carrying

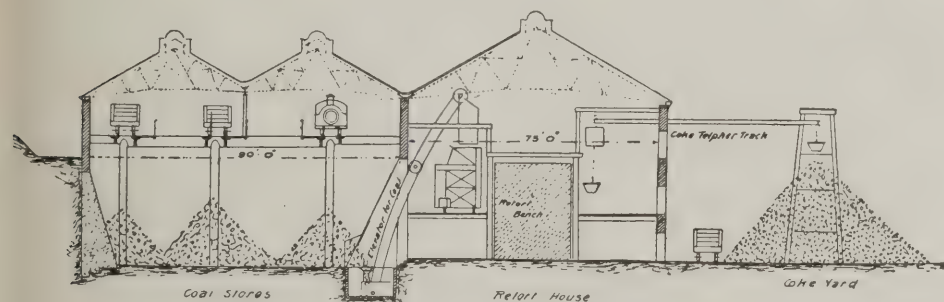
the rails have a span of 21 ft. As a sufficient number of discarded pipes were available, these were used as centering to the columns, thereby saving material and labour, and obtaining a strong protection against the wear of the concrete columns by the falling coal. This lining, although it must greatly add to the strength of the columns, was not taken into account, and the columns were reinforced as shown. This method of construction, as well as the

finished columns, proved a complete success.

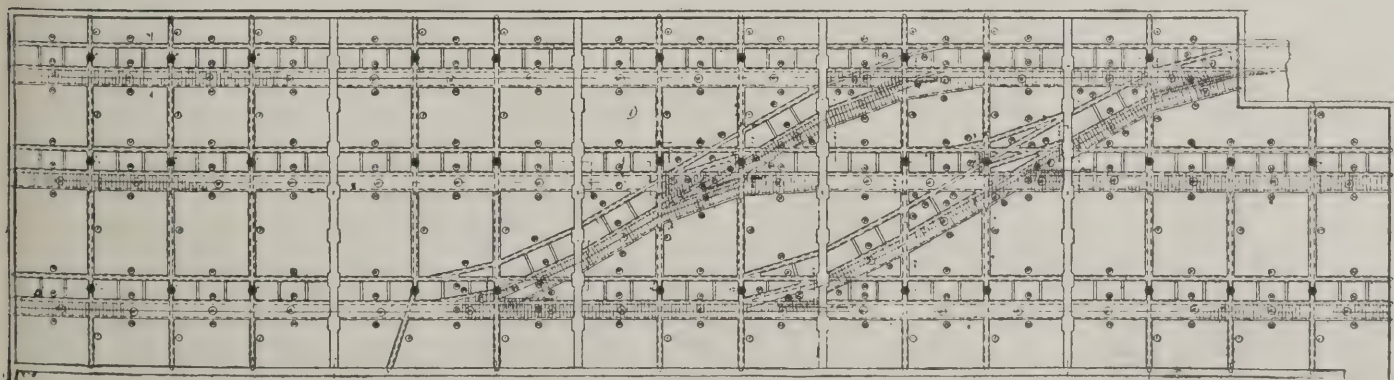
A 5 ft. wide walking platform is provided on one side of each rail track. The space between the rails, as well as one side, is left open so that either bottom or side discharging trucks can be used. Wooden sleepers form an intermediate medium between the rails and the concrete construction, securing an easy adjustment of the track, and acting as an efficient shock-absorber. The viaduct is approached by a sloping way, and carries the steel superstructure.

The coal store is divided by four cross walls into five parts of equal capacity. A general plan is shown in the drawing reproduced below.

The work was carried out to the designs of Mr. Jno. W. Morrison, M.Inst.C.E., Engineer to the Sheffield United Gas Company, the general contractors being Messrs. W. H. Treherne, Ltd., of Wellgate, Rotherham. The engineers for the reinforced concrete work were the Trussed Concrete Steel Co., Ltd., of Truscon House, Cranley Gardens, South Kensington, London.

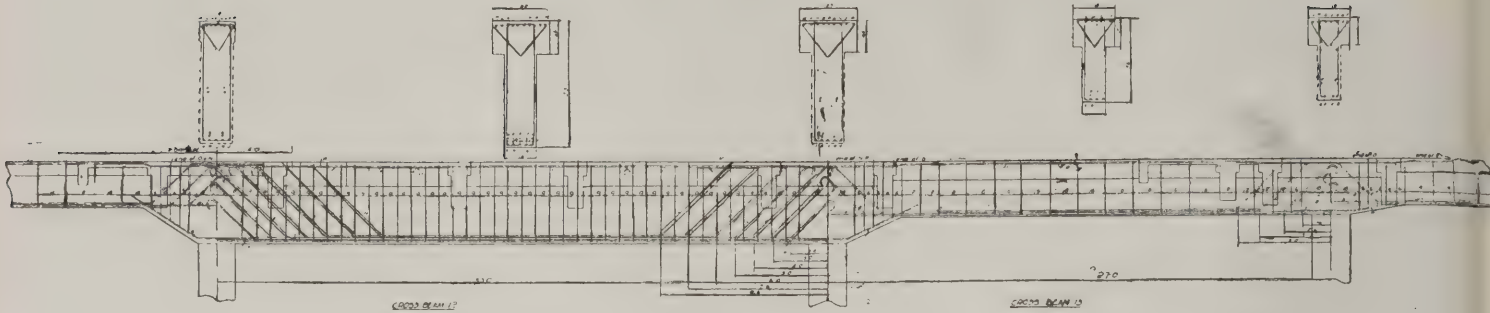


SECTIONAL END ELEVATION.



PLAN OF COAL STORE VIADUCT AT GRIMESTHORPE STATION, SHEFFIELD.





TYPICAL DETAIL OF MAIN BEAM.

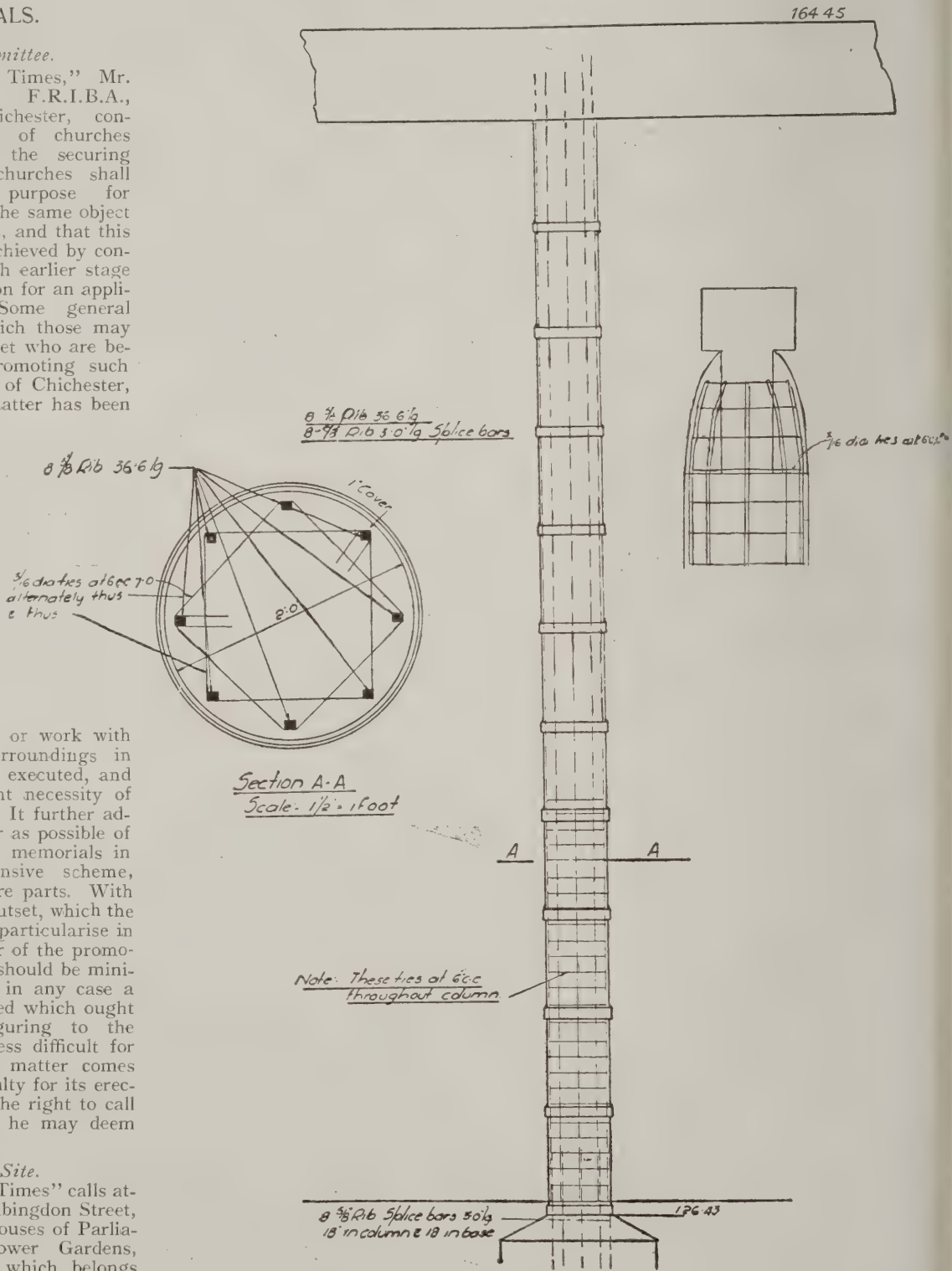
## WAR MEMORIALS.

### An Advisory Committee.

In a letter to "The Times," Mr. H. Burke Downing, F.R.I.B.A., Diocesan Architect for Chichester, contends that the protection of churches from disfigurement and the securing that war memorials in churches shall be best suited to the purpose for which they are erected are the same object viewed from different points, and that this double object will best be achieved by control and direction at a much earlier stage than that of the consideration for an application for a faculty. Some general guidance is wanted, of which those may avail themselves at the outset who are beginning to think about promoting such memorials. In the diocese of Chichester, Mr. Downing states, the matter has been taken in hand and an advisory committee on war memorials has been formed, which is not only ready to advise on particular proposals, but, with a view to preventing as far as possible the inception of unsuitable projects, has issued to the diocese a memorandum of general advice as to memorials in or in connection with churches. This lays down the principle of necessary congruity of any proposed memorial or work with the building and the surroundings in which it is to be placed or executed, and insists upon the consequent necessity of sound architectural advice. It further advocates the avoidance as far as possible of a multiplicity of individual memorials in favour of one comprehensive scheme, whether it be in one or more parts. With advice of this nature at the outset, which the committee are prepared to particularise in individual cases, the danger of the promotion of unsuitable schemes should be minimised, and if nevertheless in any case a memorial should be proposed which ought to be disallowed as disfiguring to the church, it should be the less difficult for the Chancellor, when the matter comes before him, to refuse a faculty for its erection. Presumably he has the right to call for such skilled advice as he may deem necessary.

### A Westminster Site.

A correspondent of "The Times" calls attention to the fact that in Abingdon Street, Westminster, facing the Houses of Parliament and the Victoria Tower Gardens, there is a piece of land which belongs partly to the Government and partly to the Ecclesiastical Commissioners. It stretches from Henry VII.'s Chapel to Great College Street, and is at present



COAL STORE VIADUCT AT GRIMESTHORPE STATION, SHEFFIELD: DETAIL OF COLUMN.

covered mainly by various buildings of no great interest. The leases of these buildings have fallen, or are falling, in, and it is said that there is a plan for erecting on the site of some of them a tall building that would dwarf the chapel. In any case, there is a danger that the ground will be used for merely commercial purposes unless something is done quickly. It is one of the finest sites in London, and there has long been a scheme for making a worthy use of it.

#### *A Campo Santo.*

But at this moment when, owing to the falling in of the leases, it becomes possible for that scheme to be carried out, there is also a very strong and particular reason why it should be carried out. For the scheme is to build on the site a cloister or Campo Santo where could be placed monuments for which there is no longer any room in the Abbey itself. And what more appropriate, simple, and, indeed, useful war memorial could there be than such a cloister? Indeed, it is so obviously right and fitting that there is some danger lest it should not seem exciting or unusual enough. Our modern way with memorials is to set up something perfectly useless and meaningless, and so perfectly ugly. We have a notion that a memorial to be a memorial ought to be nothing else. But when you tell an artist to design a memorial, you tell him nothing; you set him an impossible task, because he has no purpose to fulfil and no laws to bind him. So, usually, he produces a mere congeries of sculpture and ornament which looks like a great, elaborate pinnacle attached to no building. A cloister has this drawback for the modern mind, that it is not necessarily a memorial, that it has uses of its own. But that is the very reason why it is easy to design good cloisters, while it is almost impossible to design good memorials that are nothing else. And a cloister is a place not only of use, but also of sacred and delightful associations. It would be a place of peace in the midst of a busy town; and it might easily be a place of beauty. If it were well designed, so far from marring the Abbey it would enhance it. What is needed on that site is a low building, and a cloister is the lowest building possible. It could be connected with the Abbey at Poets' Corner with a very little contrivance; there would be no need to tamper with any part of the Abbey, still less to conceal any part of it now seen; and there is room enough on the site to make a cloister not much smaller than the Campo Santo at Pisa.

#### *Style and Sense.*

There is only one danger in the scheme and that is lest, the Abbey being Gothic, it should be thought necessary, for the sake of congruity, to make the cloister sham-Gothic. But the congruity of sham-Gothic with real is always incongruity. What is needed to make the new building harmonise with the old is the same spirit, the spirit of builders building according to their own sense of beauty and fitness, and solving their problem in the terms of their own time. True, most of the cloisters in this country are Gothic; but that is only because they were built when Gothic was the natural style. Now it is not; but it would be easy enough for any architect who knew his business to design a cloister simply as a cloister, just as engineers design railway bridges. To make it a worthy memorial we need not obsolete architectural features and ornaments, but good material used without stint. It should be built as

if for all time, not in a fashion that must soon become stale. If now we are to have a memorial at all of those who have died for us, we should wish it to be in our own language; for only in our own language can we speak so as to be understood by all ages. And architects, like writers, speak their own language only if they are considering above all things the sense of what they have to say, and not the manner in which they shall say it. A cloister in itself is sense, whereas a mere memorial is nonsense, so it could dictate to the architect the manner in which he should design it. But if he is told to make it Gothic, from some false notion of congruity, he must think of style rather than of sense, and his work must be incongruous with that of builders who thought of sense, not of style. We insist upon this point because the scheme is excellent in itself, and promises a perfect harmony of beauty with utility. It would be a thousand, thousand pities if it were marred in execution by our prevailing notion that beauty and sense are incompatible in architecture.

#### *In Favour of the Abbey Site.*

Writing on this subject in the "Daily Telegraph," a contributor signing himself "A Londoner" says:

Once more the need to provide a space for the memorial of those who have deserved well of the Empire has come to the front in a manner that brooks no contradiction. Once more the over-tenanted stones of Westminster Abbey cry out that there should be added to the greatest and most lovable building in Europe some worthy annexe in which the dead of the next six centuries may lie side by side with the dead of the last, co-equal in honour and in our eternal gratitude co-equal. There is only one space in which the Abbey buildings can be extended. West, north, and east the urgent traffic of London hems in the great structure that from Henry to Henry summed up, and still sums up, the splendour and the pride of England.

To the south alone is there room and space for this extension, and the time has come when all the land to the south of the Abbey, from the Chapter House to Wood Street, must be reclaimed from the tide of dingy brick that should never have been allowed to surge so near the pivot of all the Empire. Some years ago a beginning was made, but Mr. Labouchere's house withstood it, and the effort died out. Again and again it has been begun, and there has been some little echo. The Westminster Palace Gardens have at last been secured; but in those days there was no need at any one moment of some gigantic scheme by which to perpetuate our solemn debt to those who have died for us, for all that we hold dear, for all that civilisation means. That time has now come, and the feeling that there can be no other worthy place is quick in the souls of us all. No peddling institute to commemorate these iron days; no subscriptions.

Borne on the Imperial books, the cost of this war must be extended at least a fraction of one day longer in order that those who come after may still see beside the place where the heart of the Empire throbs something that shall record our plain thanks to the men who saved us in the day of our great and bitter need. No steel and stucco work for us—it should be as Reginald Bray may have dreamed it in the old days when that most miraculous of all roofs in the world was set up over the glass walls of Henry VII.'s chapel. It

should be of stone, as carefully tested and chosen and tested again as any and every block in the Assuan dam. It should have foundations plunged into and through the London clay as deep as ever a caisson sank. In these days of show and glitter, let us have one solid and everlasting memorial of what the British Empire proved itself to be in the day of Armageddon.

The dainty little gardens and closes of College Street would have stood small chance and have been given small respite in the days of Edward or Henry. Why should they be respected now? In justice let there be the fullest compensation, but the day has come when the Empire submerges alike the country, the city, the parish and the privilege.

We can build nowhere else; and these gathered peoples who have fought for us and ours intend to build. Ask any one of our Dominions if they would not instantly, and as an honour bear the whole cost of this great memorial. Ask—and, for the sake of our great heritage, refuse. This is our business, and as plain, sane men we shall not hesitate. One with the memorials strung along our line in Flanders and in France; one with the scattered records of our lives laid down on the Peninsula, at Salonika, in Palestine, and along the river; one with the unrecorded graves of those who died in fair fight or by foulness on our sea-green acres; one with our story as a kingdom, a State, an Empire; let us sweep clear the southern aspect of the Abbey and do ourselves the honour of having done it to the memory of the men who have died to save the world.

### FACULTIES FOR LIVERPOOL CHURCHES.

At a sitting of the Liverpool Consistory Court, before the Venerable Archdeacon Spooner the following faculties were granted:

St. Bede, Toxteth Park.—To remove the present sanctuary floor and step, which is to be replaced with a new floor of black, white, and blue marble tiles.

St. Saviour, Everton.—To insert in lieu of the plain glass in the three-light south nave window stained glass, containing in the central light figures of Melchizedek and Abraham, and in the side lights figures of Joshua and Gideon; to place on either side of the window tablets of white marble bearing the names of members of the congregation and parish who have fallen or may fall in the present war (thirty have already fallen); and to substitute for the centre panel of the reredos a panel in opus sectile mosaic, mounted on slate, representing "Our Lord in Glory."

St. Polycarp, Everton.—To remove curtains on the east wall and place on either side of the reredos three panels of oak of a similar design. The panels are to be filled in with painted canvas, one bearing an inscription in memory of the late Mr. Charles Fee (thirty-three years Scripture reader in the parish), and the other five to bear the names of men connected with the church who have fought, or others who may fight, in the forces during the present war.

St. Matthew, Bootle.—To erect a tablet of brass in memory of Private Thomas Lloyd Morgan (Northumberland Fusiliers),



a former Sunday school teacher and sidesman, who fell in action at Arras on April 29, 1917. His mother and relatives will bear the cost.

St. Thomas, Eccleston.—To erect a tablet of brass in memory of Lieutenant John William Ward (Canadian Infantry), and his brother Lance-Corporal Frederick Ward (Northampton Regiment), both killed in action in the present war.

All Saints, Glazebury.—To remove the western boundary fence of the churchyard and cut a pathway to approach the land recently conveyed as an addition to the churchyard.

## NEWS ITEMS.

### *Memorial to Sir Herbert Tree.*

A bronze tablet to the memory of the late Sir Herbert Tree, designed by Romaine Walker, the architect who designed His Majesty's Theatre, is to be placed on the façade.

### *Chemistry Laboratory for South Wales University.*

Lord Glanely has subscribed £25,000 to the funds of University College of South Wales and Monmouthshire, to be devoted towards the erection of a chemical laboratory.

### *Southwark Cathedral.*

Mr. Charles J. Blomfield, F.R.I.B.A. (late senior partner of Sir Arthur Blomfield and Sons) has been appointed consulting architect to the Dean and Chapter of Southwark Cathedral.

### *Town-planning Scheme for Gosforth.*

At Gosforth a town-planning scheme embracing 200 acres and including a garden city and a recreation ground is in contemplation. The dwellings proposed will be for workmen, semi-detached houses without back lanes, and in their stead small plots of land for growing vegetables. There is no doubt (comments a writer in the "Sunderland Echo") that this is the idea to aim at. Instead of jamming the houses together in one part and having allotments together some way off, the more sensible plan is for every home, as far as possible, to have its food-plot at its back door.

### *Employment Exchange Amenities.*

When the Building Trades Employment Exchange of the Ministry of Labour was transferred from Aldwych to new premises in Tavistock Street, Covent Garden, it will contain some novel features in the shape of refreshment and reading rooms and a tool store for the use of the workmen calling at the exchange in search of employment. Those unusual amenities are being provided by the Ministry on the advice of Lord Burnham's London Building Trades Employment Exchange Committee, which has been set up to advise the Minister of Labour on questions affecting the administration of the exchange. It is intended when the transfer has been effected that this exchange shall be the clearing exchange for the building trade in the metropolitan area, and it is hoped that the new arrangements will assist in the solution of the difficulties due to the casual and uncertain nature of employment in the building industry. The committee have also had under consideration the question of the provision of accommodation for workmen employed by various Government departments on con-

structional work in the provinces, difficulties having been experienced by workmen employed in remote districts owing to the scarcity of housing accommodation in the district. The committee have now recommended that suitable accommodation should be assured or provided by the Government departments concerned on or near the sites of the work.

## NATIONAL FEDERATION'S SUMMER MEETING.

The half-yearly meetings of this Federation will be held at the Grand Hotel, Colmore Row, Birmingham, on Tuesday, July 30 (Council), and Wednesday, July 31, at 10.30 o'clock in the forenoon.

The following is the official programme: Tuesday, July 30, 10.30 a.m.—Meeting of the Council in the Grand Hotel, Colmore Row, Birmingham. 1 p.m.—Luncheon to Members of the Council. 2.30 p.m.—Resumption of Council Meeting. 6.30 p.m.—Reception by the President of the Midland Federation to Members of the General Meeting and their ladies. 7 p.m.—Dinner, to be followed by a concert. (Morning dress.) Wednesday, July 31.—All the following will take place at the Grand Hotel. 10.30 a.m.—Official welcome by the Lord Mayor of Birmingham (Alderman Sir David Brooks, G.B.E.). 10.45 a.m.—Half-yearly general meeting of the National Federation of Building Trades Employers. 1 p.m.—Luncheon to the delegates and their ladies. 2.30 p.m.—Resumption of half-yearly meeting (if necessary).

## LONDON BUREAU FOR BELGIAN RECONSTRUCTION.

The formation of a company called the "Comptoir National pour la Reprise de l'Activité Economique en Belgique," has been notified to the Department of Overseas Trade (Development and Intelligence). This company, which has offices in London, Paris, and The Hague, has been formed as a co-operative scheme, without any purpose of profit, and in co-operation with and under the control of the Belgian Government. As its name indicates, its purpose is the assistance of the economic reconstruction of Belgium, by buying tools for every possible industry, and also by providing the necessary raw materials. To this end the Comptoir National invites British Manufacturers and producers to send catalogues and price lists with a view to supplying Belgium with general goods, raw materials, machinery, tools, etc.

The London address of the company is 110, Cannon Street, E.C.4.

## WHY PENALISE HOUSING INVESTMENTS?

A correspondent of the "Sheffield Daily Telegraph" complains that the policy of both Corporations and Governments for years has been to deal as harshly as possible with house property investment. Why this is so he finds difficult to discover. The speculative builder and the small property owner have been among the greatest benefactors of the nation, providing homes for the people. What is their reward? The

builder is now ground out of existence, and the turn of the property owner is coming.

The building of houses is a very technical work, but almost everyone to whom the subject is mentioned (especially newspaper correspondents) poses as an authority. The present house is a finished article, the product of hundreds of years of evolution, and produced by trained and skilled men. It seems to be the general idea that any incompetent person can improve upon this production of the trained mind, and when such persons call these finished products "brick boxes with slate lids," as the ancient slander goes, the builder is generally moved to laughter. The builder, who has to study the questions of cost, efficiency, and the requirements of the Corporation, is the only person who understands the question at all. Architects (this correspondent continues quite unwarrantably) are only occupied in making suggestions, which builders usually find impracticable. The cost must be as low as possible, in order that the rent may be such a figure as may be paid by the tenant. The efficiency of the present house is quite adequate, and is the result of knowledge acquired by letting property—all "faddy" houses standing empty in normal times. The requirements of the Corporation is the millstone round the builder's neck.

## PROGRESS IN FORMATION OF JOINT INDUSTRIAL COUNCILS.

The following statement relative to the progress that has been made in the formation of joint industrial councils of the lines of the "Whitley" Report was made in the House of Commons by the Parliamentary Secretary to the Ministry of Labour:—

Two Joint Industrial Councils for the pottery and building industries, respectively, have already held their first meetings.

Joint Industrial Councils have also been constituted for the heavy chemicals, gold, silver and kindred trades, rubber and silk industries, and the first meetings of these Councils will be held during July.

As a result of conferences called as a rule by the Minister of Labour, considerable progress has been made in the following eight industries:—Baking, cable making, commercial road transport, electrical contracting, furniture manufacture, leather goods, and belting, matches, and vehicle building. Provisional committees have been appointed, and have drafted constitutions, which have been sent out to the various Associations concerned for their approval. A constitution for the printing industry has been drafted, but not yet sent out to the associations concerned for approval.

As soon as the constitutions have been approved by the various associations, the first meeting of the Councils will be arranged.

In the case of the following five industries, conferences have already taken place, and have approved of the drafting of constitutions: Bobbin manufacture, boot and shoe manufacture, electricity (power and supply), roller engraving, and woollen and worsted. In the case of some other twenty industries the associations concerned are giving careful consideration to the question of the formation of a joint industrial council, and in some of them arrangements have been made for summoning joint conferences.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

JULY 31, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1230.

## NATIONAL PAPER ECONOMY.

*Owing to the very necessary Government restrictions on paper supplies, all elements of waste must be rigorously excluded. Our readers, we are sure, will gladly assist in promoting this object, which is an item in national economy. They can co-operate with us effectually in either of two ways—(1) By placing a direct subscription for this Journal, or (2) by placing with a newsagent an order for its regular delivery.*

*The Government Paper Controller has strictly forbidden the return of unsold copies of newspapers and periodicals to the publishers. Newsagents are therefore now keenly interested in the elimination of the casual customer, and are morally compelled to obtain only those papers that have been previously ordered. This fresh development strongly emphasises the foregoing advice to place a direct subscription or to give a newsagent a standing order for regular delivery.*

AT length the London County Council declares its intentions with respect to housing. It has been rather slow to move, and there is a reasonable inference that the subject was too thorny to be touched until the State had shown a lead, and that since the Government scheme was launched no time has been lost by the Housing of the Working Classes Committee of the Council in arranging a scheme of their own. It must have taken some considerable time to work out the items in a total of three millions and a half sterling, which is the sum with which the Council propose to meet the deficiency in housing and to clear slum areas. To a Council notoriously timid in finance, and, indeed, elected, as regards the majority, on pledges of rigid economy, this may appear to be a large sum. In reality it is mean and inadequate, if it is regarded in relation to the size and importance of London and to the extent of its housing needs. Three times the amount would not have been an extravagant estimate for a city containing a population of some six millions, for whom no building has been done for nearly four years. It is true that, in the immediate past, London has been much overbuilt, some of its outlying suburbs showing, before the war, thousands of empty houses. These, however, are now all occupied, the population having "caught up" to building that has been so long at a standstill; and although, owing to these exceptional circumstances, London is for the moment less overcrowded than most other great towns in the kingdom, yet the quick absorption of the surplus houses should be a sufficient warning that by the time building can be resumed the need for it will have become much more serious.

It is doubtful whether the Council's proposed expenditure of about £500,000 a year for seven years will meet the requirements. Seven years is a long time to wait. Many changes in social and communal conditions, many market fluctuations, much floating of population, many inventions, are sure to occur within that period—the tenth part of a lifetime of "threescore years and ten"—and it is unwise and unsafe to legislate so far ahead. Next March a new Council will be elected, and the party that got in on an exaggerated declaration for thrift will be in somewhat of a dilemma.

It will have to justify to its supporters this marked departure from the spend-nothing policy, and, on the other hand, will have to meet antagonistic charges of parsimony in the provision. To its supporters it can say that the popular demand for housing had to be met somehow, and that the thrift party had met it half-way as regards the amount, and had taken care to spread the burden over the years as thinly as a niggardly housewife spreads margarine over war-time bread, and in equal proportions, whether or not the yearly needs are equal, as, whether they wax or whether they wane, they certainly will not be. It is very timid finance, although not quite so cowardly as that involved in the Council's notorious scheme for "spreading" over fifteen years the work and cost of reducing the size of class-rooms—work that ought never to have been handed down to us by "educational experts" of a former generation, who are now seen to have been ignorant of first principles in education: for see the fatuousness, or the wanton wickedness, of assuming that a class of sixty to ninety children was a sound educational proposition! And now is the time to remind the electorate that the Council must be brought to book for its mean views of education. As to the policy by which the Council has incensed its women teachers to a state of furious revolt, nothing need be said here beyond observing that it seems symptomatic of the general inadequacy of a heterogeneous Council to administer a delicately technical subject like education.

It has become painfully clear that the Council has never risen to a just conception of the educational needs of London. Its sole object has always seemed to be to get off as cheaply as it can, "in the interests of the ratepayer"—as if those interests were served by belittling education! Conducted in this grudging spirit, such education as London gets is not quite worth the money paid for it—is, like many another cheapened product, "dear at the price." Education was handed over to the Council for the very reason that its members were not educationists; for, unfortunately, it had become manifest that the "educationists" on the *ad hoc* School Board were wasting all their sweetness on religious bickering. Consequently, it would be idle to expect from the Council anything more than a perfunctory supervision of permanent officials, against whom, by the way, no word of complaint can be justly urged—they have always worked with energy and efficiency. In this observation the architectural department may with propriety be included—it has done excellent work, and of course cannot be held responsible for the vagaries of the Council. These reached a climax when it was proposed to adopt the plainest possible type of brickwork school, from which every vestige of embellishment was to be abolished. Londoners should not allow their area to be uglified and bemeaned in this way. Adornment is a duty which no educational authority should be allowed to shirk. What shall it profit the ratepayer to save the fifth of a farthing in the pound and lose his own soul? The Council has no moral right thus to degrade education and uglify London in the selfsame operation.

It is because embellishment has been so often abused that timorous persons suppose its complete rejection a safe and virtuous course. It is nothing of the kind.



There is no more propriety in an unframed doorway than in an unhemmed handkerchief or an unframed picture. There is, of course, a beauty of form, which, in architecture, is largely the result of a nice sense of proportion—a certain degree of art in adjusting the relative sizes and distances of solids and voids. Is it an art, however, or is it an instinct? If you have it not, you have instead an instinct to distract attention from your deficiency by crowding your space with embellishments—the more diverse, incongruous, and illogical they are, the further they will lead the mind of the onlooker from the remembrance of noble simplicity. If he is an ignoramus, the giddy mixture will dazzle, confuse, and delight him. Bolted columns, broken pediments, intrusive cartouches, fidgety rustications or vermiculations, and a hundred other stock properties appear to please him as matters of detail, each a separate ecstasy. Apparently he sees them as unrelated entities, which is perhaps how the architect regarded them when he clapped them on in pursuance of some sort of “all-in policy.” It is, of course, not for this kind of embellishment that we plead with respect to the schools, which have been always entirely free from it; they should continue to show nothing in excess—especially not meanness.

In the report in which the L.C.C. housing recommendation is made, there is an observation that wears a paradoxical air. “Abnormal conditions have produced and intensified slums. The keynote of the general policy should be acceleration. So much importance do the committee attach to this, that they propose that all action shall be subject to the necessary amendments of the law being obtained to make it possible to deal with slum property both quickly and cheaply. Legislation in this direction has long been promised on behalf of the Government.” To proceed quickly and cheaply, we must await dilatory and expensive legislation—the sudden materialisation of a long-deferred promise of political origin and piecemeal formation. Is the Council serious in demanding land-law reform, or is it riding for a fall on the housing policy it has put forward? That policy should not have been made conditional on any sort of contingency whatsoever, and especially not on the very remote one of the fulfilment of a stale political promise. If the matter is urgent, and the Council is in earnest, let the Council go ahead on the ways and means it can ascertain objectively, not speculate on future legislation. But, with regard to either housing or education, it is hopeless to expect the London County Council to deal with a large subject boldly. It prefers to potter and palter, and, when forced into any sort of forward movement, jibs in affright at the first glimpse of its own shadow, which it mistakes for that of the irate ratepayer in thick-soled boots, his (or her) harsh voice croaking out, “Beware the Ides of March.”

It is noted in the daily Press that Mr. W. E. Riley, the architect to the London County Council, “is due to retire under the age limit,” but that, “very wisely, the Council is retaining his services, because he is still in good health, and inconvenience would be occasioned by his withdrawal into private life.” The expression may be clumsy, but the intelligence is excellent. We are all delighted to know that Mr. Riley is still going strong, and that the Council has the wisdom to perceive that it cannot spare him, and, like Antonio, has the courage to “break a custom” upon due occasion. Possibly the age-limit has been determined by actuarial calculations based upon a profound knowledge of human forces and frailties; but, at best, it can only have been based on an arbitrarily fixed average, below which some men will fall, while others

far surpass it. After nearly twenty years' strenuous services with the Council, Mr. Riley has so hale and stalwart an appearance that one would not suspect him of being of retiring age, although it is well known that he is of a “retiring disposition.” One could say to him, as the gallant said to the lady who had asked “Do you know how old I am?” “I do not know your age, but you do not look it.” At any rate, we can quite understand the reluctance of the Council to dispense with so valuable an adviser.

Housing finance has been the subject of many ingenious schemes, some of them slightly fantastic. That which has been put forward by Mr. Malcolm Bennett, of Hornsey, can hardly, we fear, be excluded from the category of freak proposals. As it will be impossible to finance housing by charging economic rents, there will be, he argues with only too much force, a deficiency to meet out of the rates. Mr. Bennett's proposal is to issue premiated housing bonds bearing a low rate of interest, but carrying a right to participate in a periodically recurring prize distribution scheme, in which about six thousand cottages would be “given away” each year to the holders of lucky numbers. By way of variety, there would be “credit annuity prizes,” the winners of which would have their rent credited as part of the purchase price of their houses. It would be a merry gamble but need not become dangerously exciting if properly controlled. As to lotteries like this being abhorrent to the Puritan conscience, it is difficult to see that the opportunity of acquiring a house at the expense of one's neighbours is much more immoral than jumping at a bait of “ninepence for fourpence.” But while complimenting Mr. Bennett on the ingenuity of his scheme, we cannot pretend to wish it success.

Another Winged Victory, and a temple containing a colossal statue of Demeter, are among the finds in the ancient sites of Cyrenaica which “The Times” correspondent thought worth a cablegram from Rome. He is not alone in this estimate of the urgency and value of an essentially peaceful item amidst the welter of war news. It is a welcome and cheering reassurance that art is not dead, however deeply it may have been buried in Cyrenaica, the vaults of the British Museum, and elsewhere. One could almost wish, however, that the excavators would for a change, unearth something less easy to identify something of more speculative character, than these eternal Winged Victories and Demeters, which are as equally beautiful, because they are all so true to type that one begins to suspect that show-room art is a less modern institution than the outcry against it would have us suppose. Winged Victories and Demeters guaranteed correct in every detail, must surely have been on sale at the ancient Greek stores. Small effigies of Demeter, for the mantelpiece, could probably be bought for a drachma or less; but one can only conjecture this, since these images must have been of the plaster that periseth. Demeter would be a favourite subject with the respectable family shopkeeper, if for no better reason than that she was well clad. Also a child could greet her with the joy of recognition because none of the heathen deities is more easy to identify. “Around her head she wears a garland of corn-ears or a simple riband, and in her hand she holds a sceptre, corn-ears, or a poppy, sometimes also a torch and the mystic basket.” She is Ceres of the pantomime; and “Persephone, who returns to her mother, is the corn which rises from the ground and nourishes men and animals.” If one had any belief in omens, portents, and such wise sayings, it were not for nothing that Victory and the goddess of plenty were simultaneously discovered! *Adsit omen!*



## HERE AND THERE.

WHY this hesitancy to create a Ministry of Health? Surely this is as necessary as a Ministry of Education, and would be, in a manner, complementary to it. For health should promote education, and education should promote health. They should go together hand in glove—as, indeed, they do already, in a measure. There is no school in which the doctor is not a power. He is, in fact, a great educator. It is his business to find out nature's secrets and impart them at discretion to the world at large. He it was who discovered sanitation, the aerobic, anaerobic, and every other sort of microbe. He insists on pure water, efficient ventilation, proper cubical contents, water-tightness, damp-proofing, dry areas, and all the comforts of home. He links the faculty invented such of these things as are artificial. That is a harmless delusion. Outsiders (including architects) have helped considerably. But must be acknowledged that the doctor has done his fair share towards making healthy homes and that his influence on the housing question has been supreme. He can always insist where the architect can do no more than recommend. You can always pooh-pooh an architect, but you will flout a doctor at your peril, for he is a man, look you, who is accustomed to be obeyed, and to stand over you while you swallow his physic, no matter how nasty the dose. Borough Councils listen to him with respect, and local authorities of lower degree tremble at his edicts.

Well, then, is he not tyrant enough already? He is formidable enough when taken separately; but what power would a junto of him wield? We might still be able to call our souls our own, but our bodies would be handed over to the Ministry of Health. Everything pertaining to them would be prescribed for us, and the prescription would usually be nasty, and often unnecessary. Sometimes the physic would do more harm than good. At present, it is not always imperative to take it. Put the doctor in power, make him a minion of the Ministry of Health, and you shall find no stalwart policemen holding your mouth open while the doctor pours into it his nasty drench. Between the medical adviser and the doctor as dictator there is an sufferable degree of difference. We should not be allowed to die of disease. We should be worried to death by plenipotent doctors. In a pamphlet issued by the British Medical Association they give away the game in several places. For instance, they would greatly regret the disappearance of the voluntary system of hospital support and management," because "what is known of the condition of State and municipal hospitals in Germany and even in France, gives ground for the belief that the individual patient is not treated with the sympathy and consideration customary in the voluntary hospitals of this country." Why, pray, if not for the very reasons that would operate supposing the medical profession were elevated into a sort of government caste? How horrible to have to watch the process of a band of humane men hardening into a horde of Government officials, with (as Falstaff says) "hearts in their bellies no bigger than pins' heads."

Yet I am disposed to think that we ought to accept these risks—that, on a just balance of the accounts, we could profit very considerably by the establishment of a Ministry of Health. We should simplify all the arrangements, getting rid of the weeds amidst the luxuriant growth of Departments and Committees," which has sprung up haphazard, in the manner of most institutions in this country. There is to be so much coordination and centralisation that one begins to

tremble for the existing medical officers who in the interests of economy will be robbed of their jobs: which, however, has not been the invariable effect of similar essays in reconstruction. At present, the various central departments and local authorities in England and Wales more or less directly concerned with the administration of health legislation are as follows: Central Departments (Internal)—Permanent: Local Government Board, Registrar-General's Department; National Insurance Commissions, Board of Education, Board of Control for Insane and Defectives (Home Office), Privy Council, Board of Trade, Ministry of Pensions. Temporary: Ministry of Munitions, Ministry of Food, Central Control Board (Liquor Traffic), Ministry of Reconstruction. Military: Admiralty, War Office, Air Council. External: Colonial Office, India Office, Foreign Office. Local authorities include Boards of Guardians, County Councils, Local Sanitary Authorities (Councils of County Boroughs and Boroughs, and Urban and Rural District Councils), Insurance Committees, Port Sanitary Authorities, Local War Pensions Committees, Local Education Authorities, Mental Deficiency Authorities, Joint Hospital Committees formed under Infectious Diseases Acts, Asylum Authorities, Water Boards. It is a formidable catalogue, and there is no doubt that the medical faculty, with their usual thoroughness, have done all that is humanly possible to make it complete.

Nevertheless, they are, as I have hinted, inclined to be a little "bossy," and the pills and potions they might feel disposed to hand out to the builder might on occasion be very difficult to swallow. Yet I think that, on the whole, their influence on building would continue to be, as it always has been, sane, salutary, sanitary. On these lines there is still much that they could do. If their Ministry is to be created at all, it should come into being before the fury of factory building is upon us. It is in the factory that their attentions are most needed. Here they could insist on hygienic conditions of planning, and on the adoption of all reasonable means not only of preventing disease and accident, but of promoting health and vigour. And when they have at length brought this country to such a high pitch of health that doctors are no longer needed except to stand sentinels round the Temple of Hygiea, official appointments as preventive men will be their only resource, unless the private practitioner is preserved to us by the adoption of the Chinese system of feeling. You pay him to keep you well, not to cure you. When you fall sick, his fees stop, and it is therefore up to him to get you fit with the utmost celerity. Imagine with what sympathetic solicitude he will feel your pulse, inspect your tongue, hearken to the motions of your motor economy, cast an anxious eye over your house to see that no damp comes in and that the arrangements for ventilation and bathing are not too primitive. He will develop an abnormal acuteness in the detection of malingering, and will thus be the means of reducing insurance rates in the building industry by about four-fifths. On the whole, I am in favour of this Chinese method, which is clearly an anticipation—the Chinese anticipate everything—of our own timid and tentative approach towards health-insurance. If health, like housing, is about to be nationalised, hospitals will surely be less subject to the changes and chances of fortune, and to the capricious incidence of the charitable dole. We shall then get better buildings, and the contractors will not have to wait until the Greek kalends for the residue of the agreed price.

DIAGENES.



## THE HOUSING PROBLEM IN GERMANY.

"FAS est et ab hoste doceri." Little as we like the Germans, we may yet take an interest in their housing difficulties; and in noting the ameliorative measures which it is proposed to adopt, we may possibly find something capable of being turned to useful account in this country, where the problem is equally urgent and not altogether dissimilar from that of the Fatherland. According to the "Board of Trade Journal," the position in Germany was summarised recently in a memorial addressed by the National Association of Commercial Employees to various German Legislative bodies. It stated:

"Germany in the last fifty years has changed from being a preponderantly country-dwelling people into a nation of town-dwellers. Even before the war the housing question was becoming acute. The increase in population demanded a regular yearly supply of 200,000 dwelling-houses, 75 per cent. of which were small houses; but since the war building activity has been at a standstill. During the war many families are sharing houses, but they will wish to go into houses of their own when peace is signed; there will also be frequent moves from large to smaller houses. Rents must inevitably rise, and the families with many children will suffer most. All that has been done so far towards remedying the existing evils is a drop in the ocean, and a comprehensive system of Imperial housing reform is required."

Again, the situation in Berlin, which may be taken as typical of the position in all the larger towns, was described in a speech delivered recently by the Director of the Statistical Office at Schönberg, in which he stated:—

"The number of houses standing empty in the forty-six communes of Greater Berlin in the period from May, 1916, to May, 1917, has diminished from 32,145 to 24,812, and is still falling. Soon after the end of the war 20,000 dwelling-houses will be required by soldiers' wives who have no home at present. At least another 20,000 will be wanted for the men who have postponed marrying until after the war. Then there will be a considerable number of single men returning who had their own houses before the war. Besides this, account must be taken of the increase of the normal demand from the young men who have grown up and from the influx of newcomers, so that in Greater Berlin during the first peace years there will be at least 60,000 dwellings required, which will afterwards increase by 20,000 every year. This demand cannot be met by emergency expedients, such as the use of garrets and basements, old railway carriages, and barracks. The only method is to build new houses on a large scale."

In order to deal with the difficulty, the representatives of the municipalities and districts of Greater Berlin have, according to the "Berliner Tageblatt," decided to bring about an amalgamation of the Municipalities and Communal Associations. Previous to this it was proposed to reopen the Municipal Housing Bureau which was closed at the end of 1914, but this was found impracticable on account of the lack of labour and material.

### *German Interest in the Problem.*

In various parts of Germany there has been great activity to deal with the problem, and various Federal States and towns are already contemplating many kinds of improvements. Among these States Saxony, Meiningen and Anhalt may be mentioned.

From June 1, 1918, the entire supervision of dwellings in Saxony is to be placed under a Government inspector, who, as also in Bavaria, will be directly answerable to the Ministry of the Interior.

On January 9 of this year the Landtag in Meiningen unanimously passed a Bill for the Government Control of Dwellings.

In the Duchy of Anhalt a law to promote the erection of small dwellings was passed on September 5, 1917. This law authorises the Government to participate financially in building associations for the public welfare, and places at its disposal for this purpose Mk. 300,000 from the surplus of the Landrentenbank, if required. Moreover, it enables the Government to give guarantees for second redemption mortgages up to a limit of 90 per cent. of the cost of construction, and up to a total amount of Mk. 2,000,000.

### *Activity of the Towns.*

The Town Council of Cologne has decided to establish a housing bureau. This bureau is to carry on a house agency, with power to enforce notice being given of empty houses, to issue housing statistics, and to occupy itself with the maintenance and provision of dwellings. This latter object is to be attained by subsidising the construction of buildings for the public welfare, by exerting influence on municipal building schemes, by providing cheap building land and money for buildings, and ensuring good railway communications.

Important steps for combating the scarcity of small buildings are contemplated by the municipal administrations in Munich, Magdeburg, Hamm, and Hildburghausen. (In Munich a Public Benefit Small Dwellings Co., Ltd., was founded in December, 1917.)

In Magdeburg various emergency measures have been taken to remedy the dearth of small dwellings. The schools, which the school administration with the approval of the Government has placed at the disposal of the authorities, have, it is stated, been transformed into small dwellings. Moreover, owners of premises or shops standing empty must transform them into small dwellings, for which purpose a money grant will be made them; assistance will also be given to public benefit societies. In Hildburghausen, at the suggestion of the State Ministry, the town has selected a building plot of 9 acres for the erection of small dwellings. This is to be given on a ninety-nine years' lease to townsmen in a small way of business who are in a position to build, and especially to those returning from the war.

In Hamm, in order to provide small dwellings several local industrial concerns and the municipality have come to the aid of a building society established there for the erection of small dwellings for soldiers returning from the war and for large families in poor circumstances with a capital of Mk. 150,000 or possibly Mk. 200,000.

An entirely new method of procedure for relieving the dearth of dwellings for large families is being adopted by the Rhineland Provincial Insurance Establishment. It has informed the mayors and officials of the provincial councils of its readiness to give assistance to all towns and communes of more than 20,000 inhabitants in the maintenance of offices for supplying dwellings for large families in poor circumstances. The relief measures to be carried out by these offices are to consist of grants in aid of the payment of rent, the supply of beds etc. Each case is to be examined on its merits by the local charitable associations. Should this new departure prove a success, other insurance establishments may adopt similar methods.

According to the "Kommunale Praxis," the Municipal Council of Dortmund has resolved upon the formation of a Public Benefit Settlement Company, and the creation of a Housing Office. This



thority maintains that the only way to surmount the difficulties of the housing question is communal building without profit, and to this end it is endeavouring to win over the large employers to co-operate. To accomplish this task, the Council has founded the Public Benefit Settlement Company, d., with a capital of not less than Mk. 2,000,000.

#### *Prussian Housing Law.*

The first legislative step in Germany has been taken by the State of Prussia, where a Housing Law came into force on April 1. Summarised, its provisions are:—

This Act opens up a field of new activity for the State and Communes in the matter of welfare work and housing measures. It makes new provisions for the acquisition of building land. Special attention is paid to the need of small and moderate-sized dwellings, and the so-called "Communal building prohibition" is confirmed by the Act. In order to meet the need of such houses and to improve the sanitary conditions of building quarters, blocks of dwelling-houses and such like, the necessary ground and sites may be expropriated until December, 1926. Communes with more than 10,000 inhabitants are bound by law to inspect the houses and to institute a Housing Office. The Act finally settles that the sum of 20,000,000 marks will be set aside by the State for public benefit building purposes.—("Kommunale Praxis.")

Again, a housing census of the Federal States of the whole Empire was taken between May 15 and 31. This applied to all communities which according to the census of December 5, 1917, had a civilian population of over 5,000. Places with a smaller number were not taken into account unless they were situated in industrial districts or were residential towns. Special importance was attached to the number of dwellings available and the anticipated demand, the rents, the distribution of the inhabitants according to the various sizes of the dwellings, the number of people living in small dwellings, and the number of dwellings in separate buildings.

Further, recognising the urgency of the problem, change in the administrative organisation dealing with this important matter has been made. The existing Housing Department in the Imperial Economic Office has been enlarged and its powers developed, especially by the creation of the post of adviser on housing problems.

#### *Proposals of Reichstag Committee.*

Finally, according to the "Frankfurter Zeitung," the Reichstag has accepted the proposals laid before it by the Imperial Committee for Housing. The text of the proposals is:—

1. The Imperial Economy Office as the Central Office for Transition Economy is to undertake the direction of a systematic and comprehensive scheme for providing houses after the war, as well as the organisation of all resources forthcoming in the Empire for this object, both public and private. It is to make all necessary preparations and take steps to this end in agreement and co-operation with the Federal States, and set matters in train at once.

2. Since it appears impossible to start building operations on the basis of the efforts of private individuals alone, owing to the increase in the cost of building materials and to the multifarious urgent aims which will be made upon capital during the transition period, 500,000,000 marks are to be provided from the Imperial Exchequer for the purpose of making building grants and loans on reasonable terms, as well as for forming a guarantee fund. At the same time, the Federal States and communes must be induced to participate in the new building

operations by providing from their resources a sum at least equal to that provided by the Imperial Exchequer.

The insurance offices, including the sick pay offices, the provincial insurance companies, the Imperial Insurance Office for Employees, and the co-operative trade societies, as well as the public savings banks, are to invest all available sums as far as possible in loans on small buildings at a moderate rate of interest.

#### *Supply of Materials.*

3. In consideration of the shortage of building materials of all kinds, it is urgently necessary to set the building materials industry going again by the timely discharge of labourers from the army and by making adequate supplies of coal available. The building materials set free by the army administration are to be given at reasonable prices to those communes where a shortage of houses exists.

4. Since, in spite of the quantities of building materials thus made available, there will in all probability during the first few months after the war not be sufficient to meet the demand, care must be taken that all buildings should be erected in order of urgency.

#### *Administrative Arrangements.*

5. In order to provide accommodation at once for the homeless suitable residential hutments must be erected and leased at moderate rentals. It is advisable that such hutment colonies should be generally established within suburban zones in the vicinity of railway stations, and so arranged that to each dwelling should be attached a vegetable garden, and, if necessary, sheds for poultry, rabbits, etc.

6. Immediately after the conclusion of peace a commencement must at once be made with the provision of sanitary, suitably furnished, permanent small dwellings, as far as possible of one storey only. In order to make preparations for providing these dwellings, it is indispensable that:—

(a) Inquiries should be instituted as to the condition of the housing question and the probable demand for houses.

(b) In all places where a shortage of houses is to be expected, suitable cheap building land must be provided and opened up, and this must be facilitated by making available landed property belonging to the State.

(c) Building plans should be prepared for all the more important types of small dwellings, e.g., leasehold and freehold houses, houses for families of one, two, or more members, houses for large families, detached houses, houses in terraces, houses for colonies, houses with a garden and sheds, corresponding to the building usages in the various Federal States and provinces. The building regulations for small and one-storeyed dwellings should, as far as may be possible, be freed from all conditions tending unnecessarily to increase their price, e.g., directions as to the breadth of streets, building materials, thickness of walls, height of rooms, staircases, precautions against fires, etc.

(d) In the lists of the men to be discharged first from the army at the end of the war, the employees and workmen necessary for erecting houses should be included.

#### *The Position of State, Communal, and Municipal Authorities.*

7. The communes or communal associations are to be regarded as competent bodies for carrying out and assisting the future provision of dwellings. They are to expend the money provided by the Imperial Exchequer and individual States, either on buildings of their own, or they are to have recourse to public benefit building societies, themselves pro-



viding a guarantee, or in case of necessity to private builders. Guarantees must be given that the money is expended for the public benefit by local by-laws or by entering in a register. The repayment of loans must be effected by a suitably arranged redemption mortgage. In the large communes or communal associations housing boards are to be established.

In addition, efforts to encourage building are being made by the publication of Orders relaxing the building Regulations in various parts of the Empire. One Order emanates from the Kriegsamt (War Office), and is addressed to the twenty-nine sub-offices of that department. It permits the resumption of building operations during 1918, and by it "wherever a serious shortage of houses exists, and its removal appears urgent, building operations are to be warmly supported and building materials released." The Order further provides that building operations on houses already begun may be resumed, but unnecessary buildings are forbidden.

With regard to the very important question of providing workmen, the Order states:—

"The necessary labour for removing the shortage of housing accommodation will be provided by the Substitute and Labour Department. It is to be taken from 25 per cent. of the labour in the building industry now available, and also from the ranks of those builders who are being slowly released from their employment on war buildings."

A second Order was directed recently by the Prussian Minister of Agriculture and the Prussian Minister to the competent authorities, and provides that timber suitable for building purposes from Government forests may be sold on generous terms to the communes and public utility associations and companies for providing housing accommodation.

## THE PALAZZO FARNESE, CAPRAROLA.

VIGNOLA'S most remarkable work is undoubtedly the great pentagonal castle at Caprarola, erected for the Pope in the hilly country near Viterbo. The romantic but lonely situation appealed strongly to the imagination of Vignola, and his success in producing a building singularly in keeping with its environment cannot be denied. Approached by pincer-like stairways, whose lines are carried on to the level of the principal entrance by two further symmetrical flights, the building rises majestically on the hillside above, and forms a climax full of dramatic interest. The two views given in this issue (one below and the other on the double-page supplement) show the general external appearance of the building, which is a fitting introduction to the striking features that follow—the circular staircase, the great circular internal court (65 ft. in diameter)—to which Inigo Jones was probably indebted for the central motif of his Whitehall Palace designs—and the remarkable frescoes by the two Zucchesi and others. It should be mentioned that the foundations of the castle were laid out under the direction of Antonio Sangallo, and that Peruzzi also prepared designs.

The characteristics of Vignola's architecture are the boldness and stateliness of his planning; his fondness for circular, semicircular, and oval forms in plans; his combination of the arched form with trabeated construction; his admirable fenestration; and his scholarly use of the orders.

Numerous and important as are his buildings, Vignola will always be remembered for his two books "Regole delle Cinque Ordini d'Architettura," published in 1563, and "Le due Regole della Prospettiva Pratica," published in 1583, after his death.



PALAZZO FARNESE, CAPRAROLA: DETAIL OF ENTRANCE FRONT AND APPROACH.

VIGNOLA. ARCHITECT.



## ECONOMICAL HOUSE CONSTRUCTION.\*

BY SIR HENRY TANNER, C.B., I.S.O., F.R.I.B.A.

THE chief difference between urban and rural cottages is in regard to sanitary questions, and the supply of water, gas, or electricity; and it would perhaps be well to assume that we are dealing with urban needs, and that these facilities are available.

The selection and lay-out of sites, the arrangement of roads, etc., together with the consideration of financial schemes, had also better be omitted, so that we may direct our attention altogether to the house, except that I might mention that the Local Government Board in its memorandum observes that the cost of ground has little effect on the rent, as with land as £100 per acre, and with twelve houses to the acre, the loan charges per house could only mean 2d. per week. The number of houses per acre advocated runs from about ten, but the London County Council on its estates has averaged perhaps thirty, land having cost from £400 to £1,150 per acre.

With the exception of a forecourt or front garden there should be little land attached to each house, as the occupants do not, so far as observation goes, give much attention to cultivating the ground, largely from want of time, and this is also the view of the Committee set up by the Surveyors' Institution to report on the question, consequently it falls upon the authority to keep the front portion in order. Opportunity should, however, be given for tenants to rent allotments, which could be arranged in the spaces behind the houses, and to which they are much more likely to give attention. The number of houses should range from ten to twenty per acre, and while the cost of land is as stated above, the cost of roads per house is considerably affected by the proximity of these houses to one another.

The points for consideration may be enumerated as follows:

1. The facilities of access and amount of accommodation to be provided.
2. To plan with a view to lighten labour as much as possible.
3. Economy in materials and construction.
4. The provision and arrangement of fittings leading to economy of labour, and lessening the quantity of portable furniture, while, at the same time, not adding unduly to the cost.

*Access and Accommodation.*

1. The provision of back streets is to be avoided, both on account of first cost and maintenance, therefore the blocks of houses must not be unduly lengthened, and houses should be arranged in pairs, and in number not exceeding eight; even then it is desirable to provide passages between every pair in order to afford facilities of access to each house without passing in the rear of others, also to allow of separate drainage, etc. The construction of long blocks and short frontages effects savings in regard to the dividing walls, as well as in the cost of roads, etc.

The internal accommodation advocated appears generally to include living room, scullery, bathroom, three bedrooms, and by some a parlour. This amount of accommodation is not required by all tenants, and the surplus is let to lodgers. No doubt this has its advantages, but must be recognised as one of the results. The varying needs of tenants

is provided for in block dwellings in towns, where dwellings containing a living room with bed-recess are arranged for, as well as dwellings with a living room and three or, very occasionally, four bedrooms. The majority seem to have two bedrooms. It may be said that sculleries are provided in every case, and in most a bath. In the case of urban cottages, therefore, it seems desirable to arrange for some variety also, but it has to be remembered that single rooms with a scullery and a bath cost somewhat more per room than a house with four or five rooms and a scullery, as sculleries and baths are not counted as rooms, but are averaged over the remainder of the house.

The dimension of rooms varies considerably. The living room ranges from 150 to 190 ft. sup., and it seems reasonable that it should increase in size slightly for each additional bedroom; therefore, while 150 ft. is sufficient in the case of one bedroom, the area should be increased to 175 about in the case of those with four.

Of the bedrooms, one should have an area of about 130 ft., the second of 80 to 90 ft., and if a third, of about 100 ft.

The rooms should be about 8 ft. high in the clear, which is ample.

The bath is usually placed in the scullery. This, no doubt, has its inconveniences, and I should advocate a separate space for the bath in the cases of two or more bedrooms. This would add slightly to the cost, but the scullery might be slightly curtailed.

A small open or closed shed is also desirable, with a paved space at the back of the house.

Accepting the above standards as to accommodation and other points, it remains to consider how far it is reasonable and right to effect economies in construction.

*One or Two Floors?*

2. The first question which arises under this head is: Should cottages have one or two floors? To my mind, the one floor, or bungalow type, presents the greatest advantages to the occupiers, owing to the saving of labour in cleaning, and in going up and down stairs. This is recognised in all block dwellings, where each dwelling is on one floor. Where staircases are provided, they are invariably narrow, between walls usually, and frequently offer more or less obstruction to the carrying in or out of furniture, due to the fact that they are expensive, and occupy a good deal of space. They add largely to the labour of keeping the house clean, while giving rise to additional expense for floor coverings. They add, in fact, about one-eighth to the cost of a cottage.

The new cottages built by the Government in Ireland are largely of one storey type. In Scotland two stories seem to be contemplated, although sometimes arranged as flats.

The scullery should adjoin the kitchen or living room, and it should be possible to do all cooking in it, and so render the living room more pleasant as a sitting and eating room.

*Materials of Construction.*

3. The walls may be of brick, stone, concrete, or concrete slabs according as the district and the facilities favour the one or the other. A 9 in. wall is seldom waterproof, and hollow walls afford space for vermin, and cause expense in covering voids, such as windows and door heads. I am not, therefore, in favour of hollow walls. They can be built

\* Extracts from a paper read at the Ipswich Sessional Meeting of the Royal Sanitary Institute, on July 27.



solid in cement, 1 to 6 or 7 of sand, a stronger construction, and in many positions, if thoroughly grouted, will be dry, and at a cost practically the same as lime and sand. In exposed positions, roughcast, with cement as a basis, should be added, and with this various effects can be obtained.

There should be no suspicion of dampness. All frames should be built-in, grooved all round, and run with cement so as to give complete waterproof joints.

The great cost of timber is not likely to be materially less for many years, as the price before the war was continually rising, so its use will have to be avoided as far as possible; therefore, concrete work requiring an amount of timber falsework will be out of the question, and it will be necessary to use standardised patterns, if it be used at all. The floors in cottages with an upper storey will have to be reconsidered, with a view to the elimination of timber joists. Concrete and hollow tile beams reinforced, cast on ground and raised to position, may be one of the ways of avoiding timber joists.

The ground floors should be of concrete, and that of the living room can be covered by the best of the composition floors laid in situ with hollow quadrant to meet the walls; but a careful selection must be made to ensure success, as all are not equally reliable, or linoleum may be laid on the concrete. Wood is advocated, but I am afraid it will have to be avoided for the present, and a solid floor is much more satisfactory. The scullery floor should be of granolithic tiles, which are in some respects pleasanter but are more costly.

Lath and plaster partitions should be avoided, and replaced by slabs, concrete or half-brick. The former are excellent and economical.

For roofs there is little alternative to timber with a covering of artificial slates, several forms of which are on the market. Felt, or Willesden paper, should be placed under to render the houses more equable in temperature, the slates being laid on battens.

For plastering, the ordinary two-coat work in lime, with a 10 per cent. gauging of Portland cement, is the best and less liable to show condensation than the hard patent plaster so much used, and at the same time is more economical.

For windows double-hung sashes have some advantages, but are somewhat more costly than casements; on the whole, I prefer the latter. For doors the ledged type should meet all cases, with Norfolk latches instead of inferior rim locks and brass furniture, which seems to be always getting out of order.

It is assumed that a gas cooker will be provided in the scullery, and that this will be generally used in preference to a range, and the point arises as to whether a range should be provided. The difficulty is the hot-water supply to the bath, and if a hot-water supply could be arranged for from a central installation the trouble would be solved; but with houses at considerable distance apart, the cost of the necessary trenching and piping renders its application somewhat remote; and it should be considered whether a small boiler and copper in the scullery would not be the best place, and provide a stove of the "interoven" type in the living-room.

#### *Fitment Details.*

4. It would no doubt be of the greatest advantage, and largely avoid the use of coal, if a hot-water supply installation could be established, but it is difficult to see how this is feasible with "small groups of houses." It seems to me that it can only be done with large blocks of dwellings, except at an undue cost for attendance.

With the arrangement above suggested there need be no dresser, but shelves and a cupboard with shelves and hooks in the scullery would be much more convenient. There should be a draining-board and a small plate rack to each sink. In the living-room some shelves for books, and where there is a bay window a box seat could be formed, and in each of the bedrooms there should be a cupboard of a minimum width of 3 ft. going up to the ceiling in two heights, with several shelves and with a rail or rod and hooks. Picture rails could be, with advantage, generally provided, and would avoid damage to walls by the driving of nails into the walls.

## THE PLATES.

### *An Egyptian Composition.*

THIS is one of Mr. Walcot's most masterly representations of ancient Egyptian architecture providing an extraordinarily vivid setting to an incident in the Roman occupation of Egypt.

### *An Eighteenth-Century Fireplace.*

By the grace of its proportions and the delicacy of its detail, this fireplace, from Hatton Garden obviously belongs to the best period of eighteenth-century design. The influence, if not the hand, of Robert Adam is manifest.

### *Three Chairs of the English Empire Period.*

While the influence of Classic research lasted furniture design in this country was stimulated to an unprecedented degree; but when this influence waned partly owing to the decline of interest in the antique and the consequent lack of an appreciative audience the character of movables and other architectural accessories suffered. Chippendale, Hepplewhite, Sheraton, Thomas Hope, and Papworth raised English decorative design to a very high position succeeding by their efforts in welding all that was noble in native craftsmanship to the best traditions of the antique. The fine examples of early nineteenth-century chairs illustrated in this issue are characteristic of their period. They are painted beechwood, with cane seats and backs. The culmination of English furniture design was reached about the year 1830, or a little later. After this date the old traditions were interpreted in a coarse, brutal fashion. A veritable hotch-potch of furniture and decoration followed, because the controlling and sustaining influence of a definite style was wilfully ignored.

### *St. Mark's, Venice.*

The church of St. Mark, the commencement of the construction of which dates from 829 or 830, with all its Oriental magnificence, stands to-day as one of the greatest architectural treasures in the world. Disregarding the various Gothic and other additions, there still remains one of the finest Byzantine fabrics in existence. The gorgeous effect of St. Mark's produced by the profuse employment of rich, rare and most costly marbles and other stones, and of mosaics, the like of which are not to be seen elsewhere is enhanced by the wonderful lighting effects. The addition of Gothic ornaments in the early part of the fifteenth century, and the further addition of parts in the Renaissance style in the following century combined to produce a composition which, notwithstanding the mixture, is still essentially Byzantine Romanesque. During the period of the greatest prosperity of Venice the church of St. Mark was merely the private chapel attached to the Duca Palace. The church of San Pietro di Castello was the cathedral church until 1807, after which date St. Mark's became the cathedral church of the city.



ARCHITECTURAL DRAWINGS AND SKETCHES. XXVII.—AN EGYPTIAN COMPOSITION.  
(From a Drawing by William Walcott.)





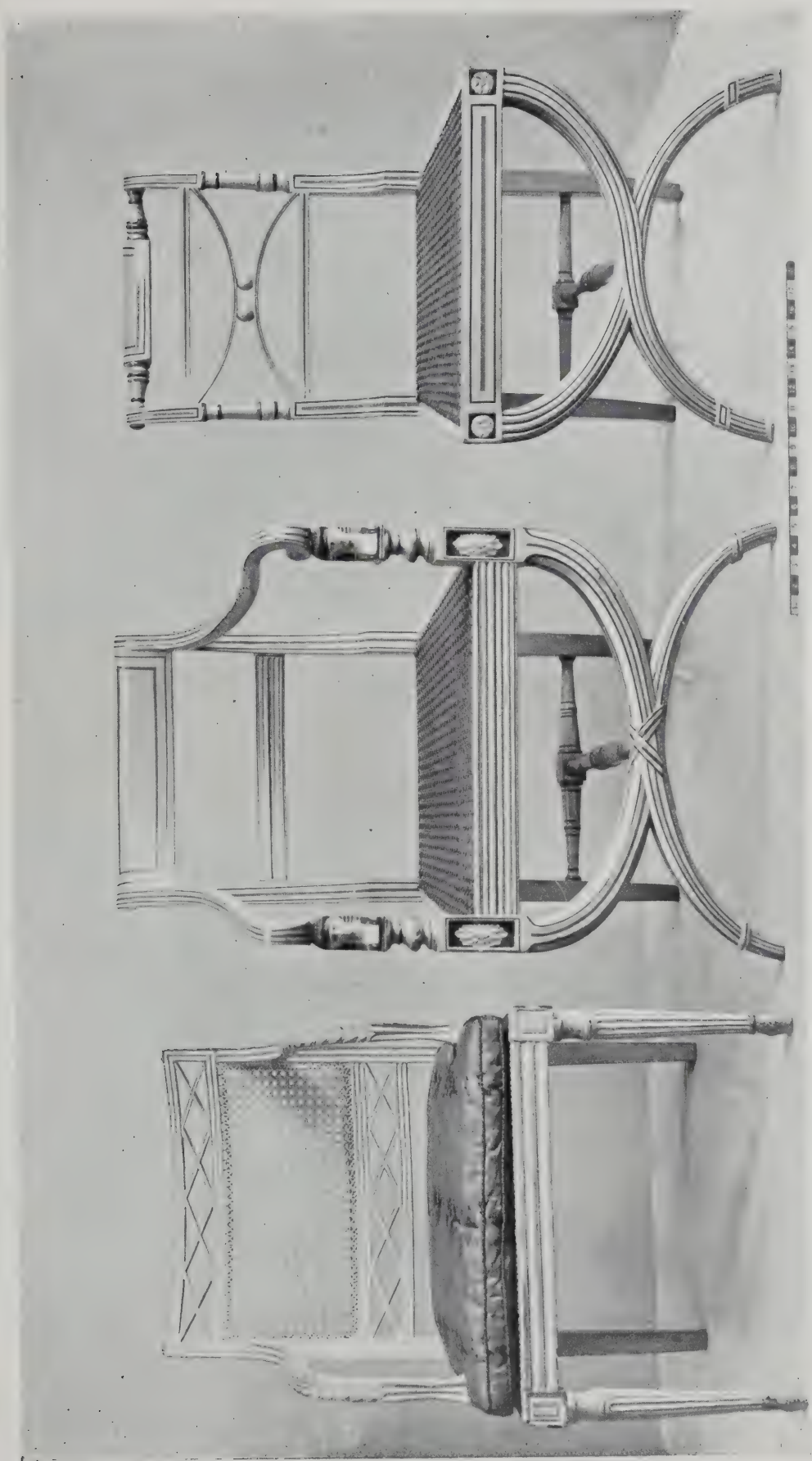


*Photo : E. Dockree.*

DETAILS OF CRAFTSMANSHIP (SERIES III.). XXXIV.—CHIMNEY-PIECE FROM A HOUSE IN HATTON GARDEN, LONDON.







FURNITURE. III.—THREE CHAIRS OF THE ENGLISH EMPIRE PERIOD: DATE ABOUT 1805.



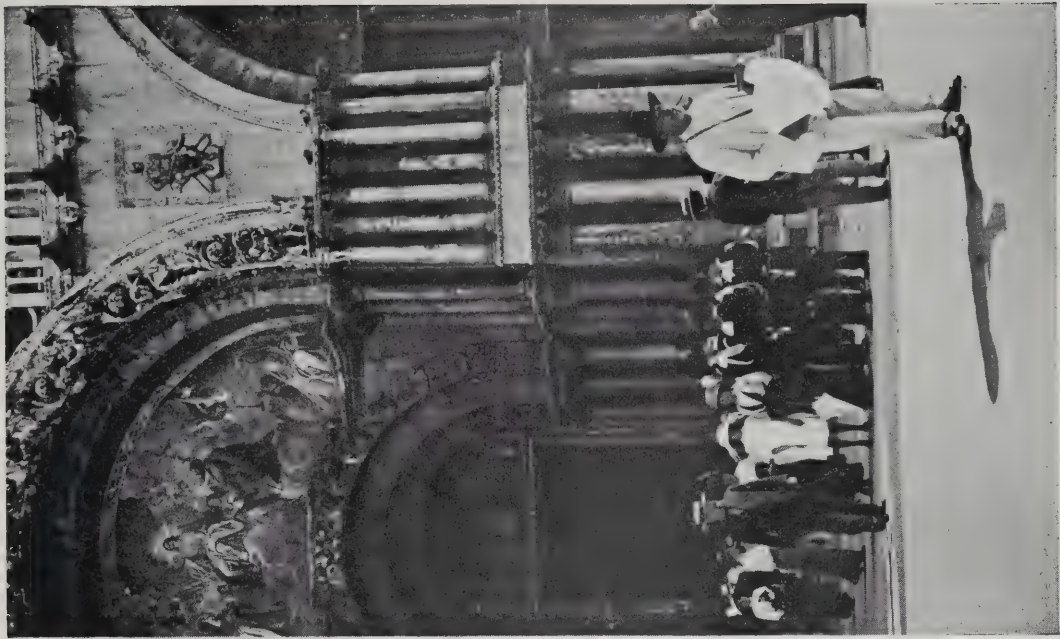




ARCHITECTURAL MONUMENTS IN THE WAR ZONE.

III.—ST. MARK'S, VENICE.

*From Photographs by Charles T. Ruthen, F.R.I.B.A.*













MONUMENTAL ARCHITECTURE (SERI

VIGN



XLVI.—PALAZZO FARNESE, CAPRAROLA.

HITECT.





sometimes stated that the design came originally from Constantinople, and was based, it is supposed, on St. Sophia, and again that it was the work of a Greek artist; but this church is certainly the largest Italian sacred edifice in the Byzantine style. The ground plan is that of a Greek cross; all the equal arms are vaulted semicylindrically, terminating, after meeting in the centre of the building, in four semicircular arches on the four sides of the centre square. The lighting is introduced through windows arranged in a cylindrical wall which rises from the circular base formed by the pendentives, which are gathered over from the anterior angles of the main piers. From this same cylindrical wall springs the hemispherical dome. Semicircular arches spring from rows of columns, which separate the building transversely and longitudinally. There are, in addition to the principal domes, four others, one over each of the four arms of the cross. The atrium is covered by a series of small domes.

The length of the church is 250 ft. and the width 70 ft. The shell is of brick, faced with thin layers of marble of great variety, largely obtained from earlier buildings. The wonderful charm of St. Mark's lies not in its rows of sculptured marble saints, or in its fifty campanili, towers, or pinnacles, nor, indeed, in its many domes, but in the complexity of its many coloured marbles and in the wonderful mosaic pictures on a lustrous gold groundwork. Over the principal portal upon the roof of the atrium stand four horses in bronze (or rather "stood," for they have recently been removed for safety against air-raids) some 5 ft. high, said to be classed amongst the finest of ancient bronzes. It is said that these bronzes once adorned the triumphal arch of Nero, and later of Trajan; also that Constantine caused them to be sent to adorn the Imperial hippodrome at Constantinople, and that they were brought to Venice as spoils of war by Doge Enrico Dandolo in 1204. Further, that in 1797 Napoleon carried them to Paris; but in 1815 Emperor Francis of Austria caused them to be restored to their former position. One of the illustrations in this issue shows, over the main portal, the very beautiful mosaic in the lunette, a fine specimen of the wonderful work for which this church is famed. This mosaic of Our Lord enthroned between Our Lady and St. Mark is perhaps one of the most ancient mosaics in the basilica. Another illustration shows one of the famous bronze flagstaff pedestals by Alessio Leopardi, 500-5.

#### *The Palazzo Farnese, Caprarola.*

A note on this the most remarkable of Vignola's executed works appears on page 52.

## CORRESPONDENCE.

### *A Lost Opportunity.*

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—The recent reference in your columns to legal proceedings under the Act for relief in pre-war contracts, in connection with the picture pavilion property on the Duke of Westminster's estate near the Marble Arch, is useful in that it draws attention to a deplorable want of imagination on the part of the local authority responsible for permitting the building operations on that particular site. Any observer of traffic conditions, both foot and vehicular, at that corner, can see that, notwithstanding the fact that the building frontage has been put further back than where it was when the old house originally stood there, the congestion is nearly always of a serious nature. If, in addition, he is accustomed to looking beyond the immediate present, he cannot help coming to the conclusion that

no building whatever ought to have been allowed on that corner at all. Advantage should have been taken of the demolition of the house already referred to for the purpose of effecting a really noble improvement, throwing into view Hertford Gardens immediately adjacent, thereby bringing that spot into some sort of harmony with the opposite corner of Hyde Park. A wide curve from Oxford Street to Park Lane would have given grace and dignity to that corner, whereas now, well—I can only advise your readers to look at the site (sight) and realise the great opportunity that has been lost.

W. A. A.

## A BRITISH GALLERY OF MODERN FOREIGN ART.

THE great need of a National Gallery for modern foreign art, to which attention was called in the report of the Committee of Trustees of the National Gallery in 1915, under the chairmanship of Lord Curzon, has been met by Mr. Joseph Duveen, who, through Lord D'Abernon, has offered the Trustees of the National Gallery to provide the funds for building a gallery.

The offer has been accepted by the Trustees and the First Commissioner of Works, and (the "Morning Post" states) the gallery will be erected on a portion of the vacant site reserved for extensions behind the Tate Gallery at Millbank as soon as circumstances permit.

In most foreign countries well-considered efforts to do justice to the contemporary art of other countries have long been in operation, and the Luxembourg in particular has a representative collection of modern British painting.

It was pointed out in the Trustees' report in 1915 that "the nation is at present suffering in two ways. No funds are considered to be available for the purchase of modern foreign pictures, and at the same time donors and testators are deterred from contributing them to the national collections owing to there being no obviously suitable place in which they can be shown. On the other hand, the Government is not likely to be impressed with the urgency of providing a suitable building so long as there is only the nucleus of such a collection to be accommodated."

Mr. Duveen's offer constitutes the first necessary step out of this vicious circle. British collectors have scarcely done justice to contemporary foreign art, and the few considerable collections made, such as the Staats Forbés, Day, and Young, have been dispersed without the nation profiting through them, and arrears will now be difficult to make good, but, thanks to bequests and gifts from a few men like Mr. Salting, Mr. Drucker, and Sir Hugh Lane, the nucleus of a foreign collection exists, and it is to be hoped that Mr. Duveen's liberality in providing a gallery will evoke corresponding generosity on the part of others in filling it with a worthy collection.

Some interesting small works by Degas have recently been acquired for the nation by Mr. Duveen himself, Mr. Ernest Hill, and the National Art-Collections Fund; but the fact that so few of the great foreign painters and practically none of the sculptors—except Rodin, through his own generous gift—are adequately represented in the national collection is a serious blot upon the nation's record in art.

Mr. Duveen's gift at the present moment is particularly well timed, as it marks the increasing unity of the Allied nations, for, with the exception of neutral Holland, when we speak of modern foreign art it is predominantly of the painting and sculpture of our Allies, and, above all, of French artists, that we are thinking.





### A BEET PULP DUST COLLECTOR.

THE accompanying illustrations show a beet pulp dust collector erected for the Owosso Sugar Company, of Owosso, Michigan. There were several features about the construction that required special study, notably the supporting of the interior cylinder and the cone-shaped floor.

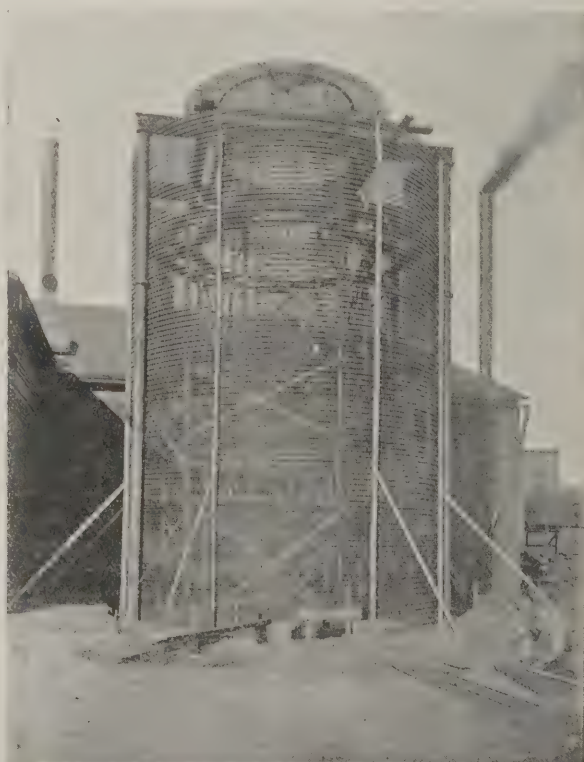
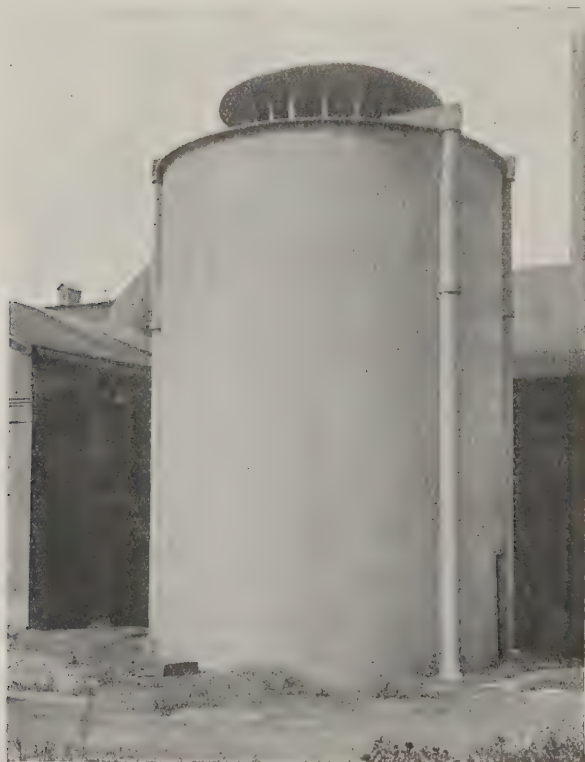
The outer wall was built up as shown in the diagram by using curved sheets of Hy-rib lapping at the ends and sides. Vertical rib bars were fastened to this at

intervals to steady and reinforce it while it was being plastered. The wall was 3 in. thick, and the last coat of plaster, both inside and out, was waterproofed with waterproofing paste. This wall was 22 ft. inside diameter by 32 ft. in height. An opening was left at the bottom, for a door to enable the under side of the floor to be reached, and at the top for an angle-iron frame, to which was fastened the blower or air pipe.

The floor had to be on an incline to

cause the dust to slide to the centre or bottom, where it ran through an 18-in. hole into a conveyor.

The floor was built of Hy-rib straight sheets. The sheets were fastened at the top to the side wall and supported near the centre by an angle iron ring, which rested on 8-in. I beams supported by columns from the ground. At the lower end the sheets fitted into an 18-in. diameter 2 by 2 angle iron. The sheets, of course, had to be cut on a bevel at certain points, so



DUST COLLECTOR FOR THE OWOSSO SUGAR COMPANY, OWOSSO, MICHIGAN.

that these would not lap, but would keep the same thickness all over. 7/32-in. round rods were run round the floor in a horizontal position, 24-in. centres, and tied to the reinforcement to stiffen it. The floor was plastered to a total thickness of 1 3/4 in., the last coat on both sides being waterproofed with waterproofing paste.

The most difficult part of all was the cylinder at the top, for this had to be hung from the top, as supports from the bottom could interfere with the air currents.

This was carried out by placing four iron columns on the outside of the main wall, these columns supporting a framework of two 15-in. channels, and two 6-in. channels, as shown. On the top of this frame rested a 6-in. by 3 1/2-in. angle-iron ring. At the bottom of the cylinder was placed an angle-iron ring, and twelve 1/2-in. rods equal distances apart were bolted to it, while the other

end ran up and over the 6 in. by 3 1/2 in. angle-iron ring, being held down with 1/4-in. by 2-in. clamps bolted to the angle iron ring.

Three-eighth-in. Hy-rib lath was then placed with the ribs vertical against the inside of the 6-in. by 3 1/2-in. angle and the outside of the lower angle. An iron ring 1/4 in. by 3 in. in four parts was then bolted over the reinforcement and to the 6-in. by 3 1/2-in. angle ring. Hy-rib metal lath was used to cover all exposed steel before plastering; 7/32-in. round rods were placed 24 in. on centres in a horizontal position on the 3/8-in. reinforcement. The cylinder wall was plastered to a thickness of 1 1/2 in., the last outside and inside coats being waterproofed with waterproofing paste.

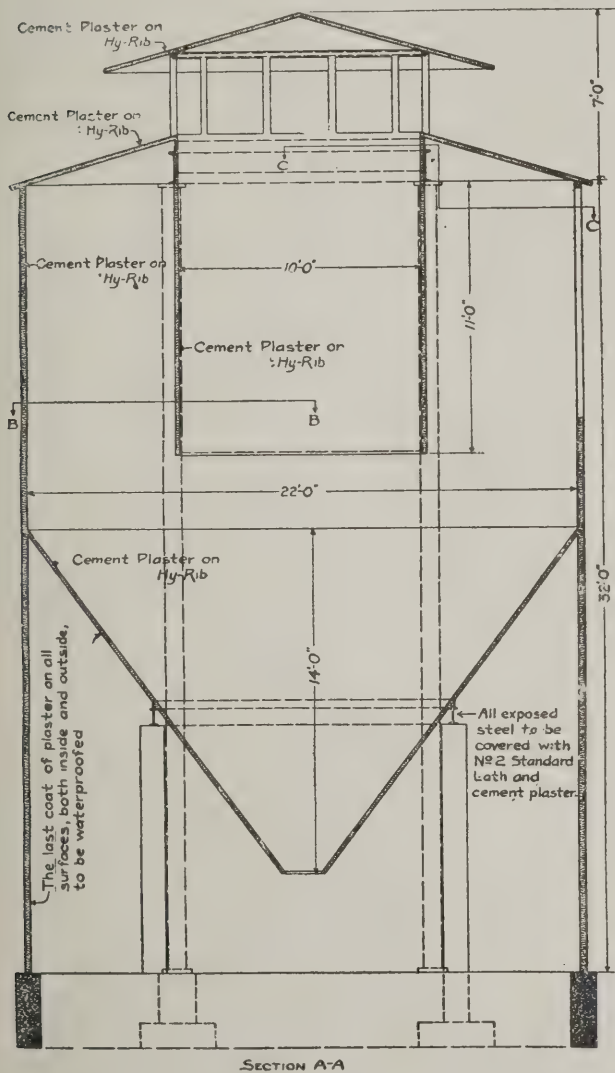
The roof from the outer wall to the cylinder wall was built by spanning reinforcement from wall to wall, covering

with 1 1/2 in. of concrete and 1/2 in. of plaster on the under side.

The roof over the cylinder was built by supporting an iron ring 2 1/2 ft. above the top of the cylinder with angle iron posts. Hy-rib was used to form a cone-shaped roof, as shown. The roof was covered with 1 1/2 in. of concrete and plastered 1/2 in. on the under side.

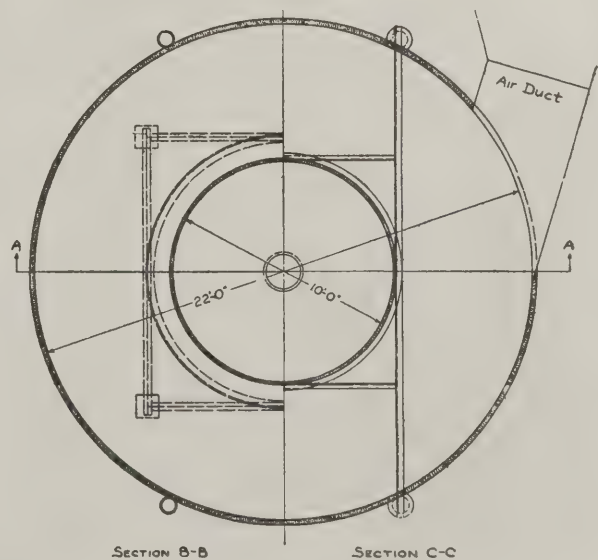
Besides waterproofing all exposed surfaces, the interior was painted with Trus-Con Bar-Ox, a specially prepared acid-resisting paint. The exterior was painted with Trus-Con Stonetext.

In the operation the dust-filled air is driven into the larger cylinder, strikes the small cylinder, circulates round it, and down. The dust falls to the floor and slides down it through the opening and into the conveyor. The air flows down, then up through the small cylinder and out under the roof.



DUST COLLECTOR FOR THE OWOSSO SUGAR COMPANY,  
OWOSSO, MICHIGAN.

NOTE.—The photographic view shows the underside of the cone-shaped floor.





## L.C.C.'S HOUSING SCHEME.

The Housing of the Working Classes Committee of the London County Council recommend the spending of £3,500,000 to meet the deficiency in housing and to clear slum areas. They propose to hold a conference of all local authorities in and around London, so that means can be found for improving the housing conditions of Greater London as a whole. The abnormal conditions, the committee says, have produced and intensified slums. The keynote of the general policy should be acceleration.

So much importance did they attach to this, says the report, that they proposed that all action should be subject to the necessary amendments of the law being obtained to make it possible to deal with slum property both quickly and cheaply. Legislation in this direction had long been promised on behalf of the Government. They had carefully assessed the amount of work which, in the light of experience, they thought the Council could reasonably hope to undertake, and had arrived at the conclusion that it must be put at £3,500,000, spread over the period of seven years at the rate of about £500,000 a year. The magnitude of the undertaking might be realised from the fact that, even with the costly processes involved in the existing law, the Council, for nearly £2,000,000, had in the past cleared 55 acres of slums and provided new dwellings in connection therewith for over 16,000 persons. The general procedure would be, first, by way of building new houses, both upon estates ripe for development and upon sites adjoining or near actual insanitary or overcrowded areas. This would serve to create a healthy draught from insanitary to wholesome property. The estates already in the Council's possession and available for this purpose covered 106½ acres, and were capable of accommodating a population of some 17,000 persons on the basis of two per room, while doubtless some opportunities would occur for the acquisition of partially developed estates in suitable localities. Secondly, and as far as possible concurrently, they would deal with insanitary houses and areas; and, thirdly, and also concurrently, the erection of new dwellings as land thus became available.

The Finance Committee state that it is estimated that the rents obtainable during the years immediately following the termination of the war will not be sufficient to meet the increased loan and other charges. If this be so it will create an emergency situation, due to the war, which will necessitate a departure from the sound economic policy of avoiding a charge on the rates for dwellings.

## THE "OWEN JONES" PRIZES AWARDS.

Following the precedent of 1917, the Council of the Royal Society of Arts, with the kind assistance of the Director of the Victoria and Albert Museum, this year arranged for a competition of students of Schools of Art in accordance with the terms of the Owen Jones Trust. Notices were issued in November last stating that six prizes would be offered under the usual conditions. Each prize consists of a bound copy of Owen Jones's "Leading Principles in Composition of Ornament" and a Bronze Medal. The competition this year was limited to designs for (1) Chintzes, and other Stamped, Printed, or

Stencilled Textile Materials; (2) Wallpapers; and (3) Tiles. The date for the receipt of competing designs was fixed for June 29, 1918, and arrangements were made for their inspection at the Victoria and Albert Museum.

The following judges were appointed by the Council to consider the designs submitted: Mr. Alan S. Cole, C.B., Professor W. R. Lethaby, Mr. T. C. Moore, Mr. John Slater, F.R.I.B.A., Sir Frank Warner, K.B.E., and Mr. Arthur Wilcock.

Thirty-seven designs or works were sent in from nine Schools of Art by thirty-one students. The judges report that these numbers are small when compared with those of last year, when one hundred and twenty designs or works were sent in from twenty-two Schools of Art by seventy-three students. The falling off in numbers is attributed partly to war conditions, which are even more strenuous than they were a year ago, and partly to the subjects prescribed for the competition, which are perhaps less attractive than those set in 1917.

The general standard of the work is good, although somewhat uneven, some designs showing quite matured, others very elementary ability. The judges are gratified to find that, generally, greater care has been paid to the technical requirements of the process for which the design is intended, as was suggested by them last year. While they would again insist on this technical quality, it must be understood that it alone would not secure an award where the artistic quality is low.

The awards of the judges are as follows:

### PRIZES.

- Almenrader, Dorothy M., School of Art, Hornsey, N.  
Design for block-printed Wallpaper filling in fourteen colours.  
Bulley, Mary A., L.C.C. School of Art, Putney, S.W.  
Two Sheets of Designs for Ceiling Papers  
Froom, Dorothy M., School of Art, Hornsey, N.  
Design for a block-printed Cretonne in ten colours.  
Goodale, Winifred, L.C.C. School of Art, Putney, S.W.  
Design for repeating Tile—with Tiles (unfired).  
Phillips, Margery L., L.C.C. School of Art, Putney, S.W.  
Design for Encaustic Tiles for floor covering.

### COMMENDED.

- Berry, Ivy A., School of Art, Hornsey, N.  
Design for block-printed Wallpaper in sixteen colours.  
Goodale, Winifred, L.C.C. School of Art, Putney, S.W.  
Design for printed Cretonne to be executed in nine colours  
Grierson, Edith, Municipal School of Art, Manchester.  
Design for Printed Textile.  
Hammond, Bertram, School of Art, Macclesfield.  
Design for Printed Cretonne.  
Hodgson, Gladys, School of Art, Hornsey, N.  
Design for block-printed Taffeta in eight colours.  
Kinling, Arthur W., School of Art, Glossop.  
Design for printed Cotton fabric in nine colours.  
Tippin, Alice Bertha, City School of Art, Hope Street, Liverpool.

Design for Stencilled Tablecloth with Stencil and preliminary drawing.

Arrangements have been made for exhibition to the public of the competing designs. They will be on view from July 20 to August 31, from 10 a.m. to 6 p.m. in the Class Room, Department of Textiles (First Floor), Victoria and Albert Museum, South Kensington, S.W.

In announcing the awards the Council desire to add an expression of their thanks to the judges for the trouble they have devoted to the work and for the promptitude with which the awards have been made.

They wish also to state their appreciation of the assistance rendered to the Society by the Director of the Victoria and Albert Museum and his staff.

The conditions and arrangements of the Competition in 1919 will be announced later.

## AUSTRALIA HOUSE COMPLETE

The King will officially open Australia House, the headquarters of the Commonwealth of Australia in London, at noon Saturday, August 3.

Built at the corner of Aldwych and Strand, this massive structure is striking evidence of the wish of Australia to be represented at the centre of the British Empire by an edifice of dignity and beauty. The effect in the mass, as the building is approached from the east, is impressive. The entrance is flanked by two groups of statuary, that on the right a dying explorer and his companion, supported by a female figure—representing the awakening of Australia, while that on the left is symbolical of the youthful industries of the Commonwealth and peace and prosperity.

Messrs. A. Marshall Mackenzie and Son, the architects, describe Australia House as based upon the strong columnar features of Roman architecture, and such of the qualities of the French style of the eighteenth century were regarded as suitable. Its obvious successful features are the magnificent colonnades of the Aldwych and Strand sides, the rich ornamentation of the front and the main entrance hall, with its marble walls and decorations, with an interrupted vista, 200 ft. in length through the entrance hall, vestibule, and exhibition hall, to Melbourne Place.

Throughout the interior Australian wood, marble, and stone have been plentifully used, and the internal decorations are quite in keeping with the rest of the building. From the roof a magnificent view of the whole of London may be obtained.

Altogether the building has ten floors, allocated as follows: Lower basement—Stores, treasury, cinematograph and lecture hall, and heating apparatus. Upper Basement—Strong rooms and other accommodation for Commonwealth Bank and photographic department. Ground Floor—Entrance hall, exhibition hall, Strand branch of the Commonwealth Bank and offices of the Orient Royal Mail Steamship Line to Australia. Entrance Floor—Telephone exchange, Claims Branch and Inland Revenue. First Floor—Rooms of the High Commissioner, official secretary, assistant secretary, suite of rooms for the Prime Minister of Australia, and intelligence and registration branches. Second and Third Floors—Claims Branch and Inland Revenue.

(Continued on page xi.)



The construction of Australia House was initiated by the Commonwealth Government in 1911, when the present High Commissioner for Australia (Mr. Andrew Fisher) was Prime Minister. The foundation-stone was laid on July 24, 1913, by the King. The site cost £379,756, and the total not far short of £1,000,000 will have been spent on the building when complete.

## NEWS ITEMS.

### Change of Address.

Mr. James A. Swan, F.R.I.B.A., has re-  
moved to Daimler House, Paradise Street,  
Birmingham, to which address all commu-  
nications should henceforth be directed.

### *A Replanning Scheme for Wigan.*

Mr. Gordon Hemm's tentative scheme for the replanning of Wigan has been reprinted from the "Town Planning Review" and may be obtained from the University Press, Liverpool, price 6d.

## Architectural Association House List.

The Council's nominations for the House List for the ensuing session were as follows, and as no further nominations were forthcoming they were declared unanimously elected: President, Henry M. Fletcher; vice-presidents, F. C. Eden, H. R. Quharson; hon. treasurer, A. Dunbar Smith; hon. librarian, S. K. Greenslade; hon. editor "A.A. Journal," Detmar Shaw; hon. secretary, H. H. Wigglesworth; ordinary members, Detmar Blow, Bagenal, Alfred Cox, L. H. Glencross, Stanley Hamp, E. Stanley Hall, P. D. Spaworth, V. T. Hodgson, Ralph Knott, Gilbert Scott.

*Mersey Wages Award.*

Workers in the building industry in Liverpool, Birkenhead, and Wirral districts held a mass meeting on July 21 in St. Martin's Hall, Scotland Road, to consider the position with regard to the wages question. R. W. Griffiths presided over a crowded attendance. Some time ago the Conciliation Board agreed to advance wages to skilled tradesmen to 1s. 6d. an hour. This was agreed to by private arrangement, but the Government declined to accept the arrangement so far as their constituents were concerned. In consequence the men in the building trades gave a strike's notice. It was reported at the meeting that the Government had agreed to pay the Conciliation Board rates of 1s. 6d. an hour to all skilled trades, and 1s. 2d. per hour extra to labourers, which would bring them up to 1s. 2d. The 12½ per cent. bonus is not included in the 1s. 6d. award will benefit 10,000 to 12,000 men in the district, and it was decided to withdraw the notices which had been tendered.

*Too Many Memorials.*

another plea against the multiplication of individual war memorials in parish churches was made by Chancellor Prescott before the Carlisle Consistory Court. The Chancellor said that it was now two years since he expressed the hope that the num-

ber of single war memorials would not be multiplied, and that the opportunity would be taken when the war was over to have in each parish church a memorial embracing all who had fallen in the war, whether rich or poor. The Royal Academy, as well as the Upper House of Convocation of Canterbury, had taken the matter up in the same direction. One had the deepest sympathy with those who wished individual memorials, but it was scarcely fair to posterity, who had an interest in the church walls as well as the present generation, and the walls of a church might very soon be filled or even disfigured with the numerous memorials which now came before them.

*More Discoveries in Cyrenaica.*

A correspondent of "The Times" cabled from Rome on July 24 that the work of excavating the ancient sites of Cyrenaica is going on steadily, and that among recent discoveries are two interesting statues—one the figure of a matron of the second century B.C., and the other a Winged Victory. Another important find is a temple containing a colossal statue of Demeter with various inscriptions of the third century B.C.

*A New Book by Mr. Gotch.*

The early publication is announced of an important book on "The English Home from Charles I. to George IV.," by Mr. J. Alfred Gotch, F.S.A., through Messrs. B. T. Batsford, Ltd. The volume treats of houses, interior decoration, and garden design, and is very fully illustrated. It is uniform with the author's earlier book on "Early Renaissance Architecture," and in the two works Mr. Gotch covers the whole course of evolution of the English house from the time of the Tudors to the end of the eighteenth century.

INCORPORATED CHURCH  
BUILDING SOCIETY.

This Society held its monthly meeting on Thursday, July 18, at 7, Dean's Yard, Westminster, the Hon. Sir E. P. Thesiger, K.C.B., in the chair. There were also present: The Rev. Canon G. R. Bullock-Webster, the Rev. Canon H. E. Trotter, and the Rev. G. B. Vaux, Sir Edwin Grant-Burls, C.S.I., Mr. E. G. Antrobus, C.M.G., Mr. George Cowell, F.R.C.S., Mr. Ronald E. Bill, Mr. H. P. St. John, and the Rev. T. T. Norgate, F.R.G.S., F.R.Hist.S., secretary.

Grants were made in aid of providing a chapel in connection with a women's club at a munition centre, £75; towards enlarging the churches at Gillingham (Parish Church), Kent, £200, and Holly Bush, All Saints, near Ledbury, £50; and towards repairing the churches at Brentford, S. Paul, Middlesex, £50, and Hartland, S. Nectan, Devon, £100. Grants of £175, £150, and £100 respectively were paid towards the provision of three mission churches or hostel chapels in certain munition centres. The Society accepted the trust of a sum of money as a repair fund for the Church of The Holy Trinity, Derby.

The above-mentioned grants are in aid of schemes of pressing importance, such as the Society is being continually called upon to assist, and it is hoped that church-people will realise the need for supporting this venerable Society, which is now exactly a century old.

## OBITUARY.

Mr. J. J. Knewstubb, A.R.I.B.A.

Mr. Joseph John Knewstubb, A.R.I.B.A., for the past eighteen years architect, surveyor, and inspector to the Penrith Urban Council, died on July 23 from heart trouble. He had been ill for nearly a year. Mr. Knewstubb was forty-nine years of age, the eldest son of Mr. William Knewstubb, contractor, Long Marton. Before going to Penrith he was for two years borough surveyor of Appleby, and for a similar period at Haverhill, Suffolk. His greatest work was Penrith Town Hall and Public Library, the handsomest building in the town. He had charge of the new sewerage works undertaking, as well as much of the scheme for bringing the mountain water supply to Penrith from Haweswater. He was a member of the Institute of Civil Engineers, Associate of the Royal Institute of British Architects, and a member of the Sanitary Institute. From the age of seventeen he had been a prominent Wesleyan local preacher, and had filled most of the offices open to laymen, including that of circuit steward for several years. He is survived by his widow and two sons.

LONDON ASSOCIATION OF  
MASTER DECORATORS.

A meeting of the General Council of this Association was held on Thursday, July 4, when a letter was read from the National Federation of Building Trade Operatives dated June 29, making an application for an advance in wages of ten pence per hour on pre-war rates, such advance to include general increases granted during the war with the exception of the 12½ per cent. bonus. Also for an increase to 3s. 6d. per day of the country allowance or a minimum of 24s. 6d. per week for four days or more. The secretary reported in connection therewith that he had had an interview with the London Secretary of the National Federation of Building Trade Operatives and submitted that this Association should be one of the parties to the reference which he understood had been made to the Ministry of Labour and he produced a letter which he had written to the said Operatives Association in support of his contention, together with a reply received thereto, in which the Operatives' Federation stated that they had made application to the Ministry of Labour to include this Association in the reference. The action of the secretary was confirmed and approved and he was authorised to make formal application to the Ministry of Labour to be made parties to the reference in further support of the steps which he had taken with the Operatives' Federation.

The question of the reconstitution of the National Association was discussed at considerable length, and as it was recognised that the proposals involved in the reconstitution had a very important bearing on this Association, it was resolved to form a committee to consider the whole question.

The apprenticeship question was also further discussed, and in view of the pending visit of the Joint Council to the Brixton School further consideration was deferred to the next meeting.



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# THE ARCHITECTS' AND BUILDERS' JOURNAL.

AUGUST 7, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1231.

## NATIONAL PAPER ECONOMY.

*Owing to the very necessary Government restrictions on paper supplies, all elements of waste must be rigorously excluded. Our readers, we are sure, will gladly assist in promoting this object, which is an item in national economy. They can co-operate with us effectually in either of two ways—(1) By placing a direct subscription for this Journal, or (2) by placing with a newsagent an order for its regular delivery.*

*The Government Paper Controller has strictly forbidden the return of unsold copies of newspapers and periodicals to the publishers. Newsagents are therefore now keenly interested in the elimination of the casual customer, and are morally compelled to obtain only those papers that have been previously ordered. This fresh development strongly emphasises the foregoing advice to place a direct subscription or to give a newsagent a standing order for regular delivery.*

A MEMBER of the Institute may now sign his building, and the axe of the headsmen shall not make him afraid. A notice bearing the dreadful heading "Professional Conduct" appears in the current Journal of the Institute, but, lo! its effect is not prohibitive, but permissive. So bland an announcement shall be quoted in full: "The Council have passed a Resolution substituting the following for Resolutions Nos. 1 and 2 published on page 70 of the last issue of the Kalendar: That it is reasonable for an architect's name to be placed on his buildings both during construction and on completion, provided to be done in an unobtrusive manner." So many years having elapsed since its last Kalendar was issued, the reader may have mislaid his copy, or have worn it out in the constant endeavour to extract from it the "Poor Man's Daily Portion" of consolation and advice in doubtful times. It may be useful, therefore, to quote the two resolutions that have been superseded. They are: "1. That it is reasonable that an architect should sign his buildings in an unostentatious manner, similar to that adopted by painters and sculptors. 2. That it is undesirable for architects to exhibit their names on boards or hoardings in front of buildings in course of construction." Is there not some laxity in the draughting of the new resolution? Although the example of the painters and sculptors "goes by the board," so to speak, there is no definite permission to the architect to put up a board advertising his name and address—board and lodging. "It is reasonable for an architect's name to be placed on his buildings both during construction and on completion": but how is it to be done?—that is the question. "On his buildings," not "on, in, or about" them. May he attach his visiting card to the builder's board, although that is not usually on the building? If he may only place his name—everybody will regret that "exhibit their names" has gone; it had a humorous flavour—equivocally on the building, then presumably he may not exhibit it on a detached board; nor may he cause it to be carved on the foundation-stone. But all this ribbling is quite unnecessary. Having obtained this measure of freedom, the architect will seldom or never use it, and most certainly he will not abuse it.

When the English visitor was looking across a fairly wide river in the United States, he was assured that Washington, or some other early celebrity, had thrown a shilling from one bank to the other. It seemed incredible to the Englishman, who, however, veiled his doubts in the polite observation, "Ah, I suppose it was possible to make a shilling go much farther in those days." Speaking roughly, that is a point raised by Mr. H. B. Creswell in a letter to the editor of the Journal of the Institute concerning Mr. Walter Bell's interesting paper on "The Rebuilding of London After the Great Fire." Mr. Bell "makes a comparison between the cost of building in 1670 and now, and draws conclusions from his figures; but he overlooks the fact that the values represented by our money 250 years ago were very much higher than they are now." Mr. Creswell thinks that it would be safe to assume that the value of money was at least three and a half times higher in 1670 than it is now. This conclusion, it seems to Mr. Creswell, entirely alters the meaning of the figures Mr. Bell produces; while the significance of Mr. Laurence Weaver's prising of Wren's quantities will only appear when his figures are multiplied by the figure which is ascertained to represent the true ratio between the value of money then and now. Mr. Creswell concludes that the actual cost of Wren's churches is not represented by their cost in pounds sterling at present value, but in a sum representing the then purchasing power of those pounds sterling, and that instead of the rebuilding of London in 1670 costing one and a half times more than it did in 1670, it would cost only half as much. If we go on at this rate through a few more centuries, building will cost nothing at all; the value of money will have become infinitesimal and negligible. Apparently the replanning of London awaits this consummation.

\* \* \* \*

Le Sœur's fine statue of Charles the First, at Charing Cross, has seen many vicissitudes, and that of being encased in corrugated iron is not the least ignominious of them. Much curiosity was aroused when workmen began to invest the statue with a timber framework. What was the use of wood as a protection against the fiery darts of the wicked? Then sandbags were introduced, but still the public were mystified about the wooden framework. At last its function was revealed; it was to act as studding to which corrugated sheets could be nailed to form a sort of epidermis to the sandbags; or perhaps to unify the design; or perhaps to receive the red, blue, and yellow posters which have since been added to "hold it together," as the studio jargon has it. This case-hardened octagonal pyramid is an odd thing to occupy the site of the original Charing Cross—"the last of the nine which marked the places where Queen Eleanor's coffin rested on its journey from Lincolnshire to Westminster Abbey." Le Sœur cast the statue of King Charles in 1633. Before it could be set up, the Civil War broke out, and the Parliamentarians sold it as scrap metal to John Rivit, brazier, of Holborn. John, however, seems to have had a shrewd idea that the statue would come in handy at the Restoration, for instead of breaking up the metal he buried it. In 1674 it was re-erected, on a new pedestal made by Grinling Gibbons, on the site it now occupies, which was not only, as we have



mentioned, the site of the Eleanor cross, but was also that of the place where the regicides were executed, and where the pillory stood. Whether that is the pillory which is preserved in St. Martin's Church one would rather like to know, and also whether that interesting apparatus is still in working order. A further career of public utility might be open to it.

Liverpool Cathedral is exceptionally fortunate with respect to its war memorial, the design for it having been prepared by the architect of the cathedral, Mr. G. Gilbert Scott. A memorial chapel is to take shape in one of the transepts. On an alabaster cenotaph in the middle of the chapel will rest the roll of those whose memory and sacrifice are honoured—officers and men of the local regiments and units, and officers and men of the district serving in other regiments, or in the Navy or the Mercantile Marine. It is stated that the chapel will cost at least fifty thousand pounds. It will doubtless be a very noble one, entirely in keeping with its setting. This, unfortunately, is more than can be said of most memorials, old and new; and therefore it is not surprising that the old outcry against the monuments in Westminster Abbey has been revived with reference to the several proposals for erecting a national memorial there. One purist claims that the temple should be thoroughly swept and garnished—that all the monuments and images should be cast out, and the Abbey left clear and clean to perform its sole legitimate function as a place of worship. There is much to be said for this view; for while it is more pure than peaceable or practicable, there is an æsthetic issue on which it commands our suffrages. Apart from the consideration that many of the subjects are not qualified by their merits, there is the incongruity of style shown by many of the monuments. Not only are they, with their various types and periods, in severe conflict with each other, but the Renaissance tomb in the Gothic cathedral is a jarring discord that, while it does not really "defile" the buildings as one irate correspondent says it does, certainly does not exchange compliments with its setting.

A letter on street-lighting economy addressed by the Commissioner of Police to the metropolitan boroughs states that, with the object of saving coal, street lighting in Inner London may be reduced to fifty per cent. of the pre-war lighting, provided that the reduction is spread equally over both main and side streets. It is further suggested that the lighting should begin later and end earlier, provided that most of the lamps in the more important thoroughfares are alight between one hour after sunset and two hours before sunrise during the summer period. If the reduced lighting leads to increase in crime or in accidents, the matter will be reconsidered. Street lighting is one of the countless things that will have to be taken in hand very seriously as soon as the war is over. It is susceptible of improvement in many particulars. Thanks to healthy rivalry between gas and electricity, there is but little fault to be found with the actual illuminant when it is produced under peace-time conditions; but economy of labour might be effected by turning the gas lights on or off simultaneously from a central station, in the same way that the electric lights are controlled, instead of sending round a man or a woman (for the time being it is nearly always a woman) to prod each light with a long pole, a method that involves not only a considerable waste of labour, but also an appreciable discrepancy in the times of lighting or extinguishing the lamp at the beginning, and that at the end of a long round. Then, the London suburban gas standards are gratuitously hideous, and the lamps they hold up to execration are consistently brutal in design. Elegant lamps and standards that would

adorn the streets, would cost no more than the monstrosities that blight our thoroughfares; and every lamp should give guidance that would enable the stranger and pilgrim to orient himself. This, indeed, would mean additional cost; but the community would gain by it hugely.

Architecture and decoration must not compete, for competition destroys unity. That is one of many terse aphorisms that adorn an article by Mr. C. Matla Price on "Unity in Architecture and Decoration," the New York magazine called "Arts and Decoration." He enunciates the first law of Balance, without which unity is impossible—"An interior must not be over- or meagrely furnished: decoration must not overpower architecture, nor may architecture render the decoration insignificant and futile." Excellent—if only the decorators will act up to it! As for the architects, they are, for the most part, content to hand over these high matters to the specialists in them, which is a fatal mistake. An architect should see with his mind's eye the sort of decoration that his building demands, and should know the men who can and will do it the way he wants it done, not in some other way to which they are addicted, and which they seek to impose on every architect who is weak enough to hand over to them his responsibilities in a domain that is his as well as theirs, although both he and they may be inclined to acknowledge the fact grudgingly and with a poor grace. There, again, is where unity is wanted—inter-professional unity, between all who take a hand in construction or in decoration—less of suspicion and distrust, less of independence, even; more of mutual confidence, forbearance, sympathy, conference, consultation: less bossiness and more brotherliness. In such an atmosphere art must thrive—it has in it the oxygen of geniality, which is a vitalising element in art as in life.

Unity! Why, to judge from what one is constantly hearing, the various units are at daggers drawn. Architect and decorator, contractor and sub-contractor, slater and tiler, are constantly at loggerheads. Until quite recently, the sculptor disdained to recognise architecture as the Mistress Art, and the painter of easel-pictures flatly refused to have anything to do with it. And yet it is perfectly obvious that all these elements could co-operate with enormous advantage to themselves and to art—that they and it, in the absence of unity, or of the spirit that makes for unity, suffer untold and unnecessary retardations and afflictions, slights and affronts. We want some sort of clearing-house for professional and trade jealousies, some sort of chamber in which they can be sterilised, or at least some common meeting-place in which they can be harmlessly dissipated. It is a general yearning for some such emulsive influence that has caused the revival of the Guild idea—has, indeed, gone much further and demanded a League of Nations.

A public hall as a war memorial is to be built at Ponteland. It is an example that will probably be followed in many places. There is much need of public halls throughout the country. It is strange that this indispensable addendum to civic life should be so scarce in a country possessing so full a franchise and professing so much interest in public affairs. Now that women have gained admission to the lists of Parliamentary voters, and scope for the discussion of public affairs has been correspondingly enlarged, the need for halls in which public meetings can be held is greater than ever, and the coming general election will be conducted under even greater difficulties than before. Each small community should have its public hall, and several such halls should be built where the population is large.



## HERE AND THERE.

TO each period its manners, virtues, vices. Manners get overdone. As manners they charm; as mannerisms they disgust. Similarly, virtues over-emphasised degenerate into vices. It is because the ancient Greeks realised this vital truth that they excelled in all art, of which "nothing in excess" is the golden rule. In the early part of the nineteenth century everything was overdone. In particular, the part of heavy father was tremendously exaggerated. In family life the farce was maintained that the head of the house was, if not a minor god, at least a sort of superman. To thwart his will in ever so slight a degree was to provoke the wrath of Achilles plus the thunderbolts of Jove. He made a cult of arbitrary whim and capricious temper, in order that his character might be brought into conformity with the novels of the period. His sons always addressed him as "Sir" in conversation, as "Honoured Sir" in correspondence. When he was beyond earshot, they referred to him as "the Old Putt." Also, they plunged into the excesses against which he was wont expressly to warn them. They did it partly to excite the ladies, partly to annoy the Grand Panjandrum, and partly to act in accordance with specification—in the novels. We have outgrown all these eccentricities, and probably taken on a fresh set. Certainly we are become less formal—are perhaps nearing the other extreme; for the last letter I have seen from son to father begins, "Dear Old Pal." Better to be called "Old Pal" to one's face than "Old Putt" behind one's back; but extremes meet.

A typically early nineteenth-century family was that of the Soanes. Its head was the prosperous and benevolent but inflexible father. His eldest son was to follow in his father's footsteps, and the father's mantle was to fall on the son's shoulders; "instead of which," as the judge said to the butler who had "feathered his nest with his master's bottles"—instead of which, young Soane married the wrong girl. For in those days a young man might not marry in accordance with his own wayward fancy. He must marry to please his parents, who required him to "respect their wishes," augment the family fortune by securing settlements, and uphold the family religion. On a union (I beg their pardon: in those pre-scientific days it would have been called an union, which would have been reasonable enough if union were pronounced "onion")—on a union thus thrice blessed the parents would smile. In what particular Miss Preston fell short of the parental ideal is not recorded, but when young John Soane married her, old John turned very crusty. He declared that the marriage was "a result of an excursion to one of those watering-places where young ladies are to be found who are in haste to be married." This was quite the conventional view of the period. Since old John had not himself selected the young lady, the choice was *ipso facto* wrong beyond redemption; and in condemning it old John had adopted the phraseology of the novels and plays of the period. Our great-grandparents were shockingly sentimental in a wrong-headed way, and had considerable ingenuity in the invention of means of ministering to this egotistic appetite. They were diabolically dexterous in catching fugitive causes of offence, and they wallowed in offended dignity like pigs in clover.

This parental dignity business did not arise in Cottonopolis in the nineteenth century, but was a legacy from the Age of Elegance. You will remember that Sheridan's "Rivals" has it for its central

motive; Sir Anthony Absolute being determined to exercise to the full a father's right to choose a bride for his son. Of course, if a father could do this, his further claim to shape the son's career is quite a minor matter, having in it, indeed, some slight show of reason, and, indeed, some slight glimmering of the duties of parents towards their children. Old John wanted young John to become an architect. One can easily understand that. It is only when a man has not succeeded in his profession that he warns his son off it saying, "Better be a crossing-sweeper"; which is another accepted formula. Hear now old John's exceeding bitter cry: "From his infancy I had endeavoured to create in his mind a taste for the Fine Arts, and to that end directed his subsequent education. . . . He commenced his classical studies at Margate, under the care of the Rev. William Chapman, with whom he remained several years; then he was entered at Trinity College, Cambridge, and afterwards removed at his own earnest desire to Pembroke Hall, during which period he made considerable progress in Mathematics and Mechanics. Having finished his studies at the University, he expressed a devoted passion for the Fine Arts, and particularly Architecture, which he declared it his intention to study as a profession. To give him every facility in my power, and to prepare him for finishing his studies in Italy after well grounding him in the principles of Architecture at my own office, I placed him under the tuition of Mr. Joseph Gandy, A.R.A., well known for his talent in architectural composition, and one of the most distinguished draughtsmen of the present age, who then resided in London." Instead of which, I repeat, he married the wrong girl.

On his marriage, young John gave up architecture. When, in 1823, he died, he left his widow with three daughters and an infant son. It was to this grandson that Sir John dedicated his Memoirs: "To you, my dear child, I dedicate these Memoirs, trusting that my success will be to you a stimulus and my mortifications serve you as beacons." Still the egotistical prig, the "Sandford and Merton" and "Fairchild Family" type of bore who thought it a moral duty to impose his will and whim upon everybody who had the privilege of coming in contact with him. His own "mortifications"—note a cant word of the day—had not served him as beacons, or he would not have addressed his grandson in this second-hand misfit style: "I hope and trust that those who have taken out of my hands the care and responsibility of your education will provide you with proper masters to instruct you in the ancient and modern languages, in mathematical knowledge, in the principles of architecture, and all the arts and sciences on which that noble art depends, taking the advice of Vitruvius as their model; and finally being thus prepared, you should finish your studies in Italy, France, and Germany, so that on your return to England you may be fully qualified to enter the practice of your honourable and useful profession."

To us this seems terrible cant—but we must not be hard on a man who had drunk too deeply of the spirit of his times, and whose pompous egotism was perhaps less sincere than his affectionate solicitude for his grandson's welfare—was perhaps not native to him, but was derived partly from the mood of his day, partly from the success he had achieved through his industry rather than through artistic merit, and partly through a subconscious perception that to "get on" in the world of patronage one must catch its tone, saturate one's mind with its ideas, swim with the



current rather than against it or athwart it. I doubt whether Soane had an original idea. His work, like his phraseology and his paternal sentimentality, was all strongly, if somewhat capriciously, derivative, though he knew it not. But his colossal vanity was native.

\* \* \* \*

This gossip has been prompted by perusal of an interesting booklet on "Pitzhanger Manor, Ealing Green (now the Ealing Public Library), the Country Retreat from 1800 to 1811 of Sir John Soane, R.A., F.R.S., F.S.A. (1753-1837), Architect to the Bank of England, etc." It is No. 4 of the Soane Museum Publications, and has been produced by Mr. Arthur T. Bolton, F.S.A., F.R.I.B.A., Curator of Sir John Soane's Museum. I had intended to deal with its more directly architectural interests, but those that are more explicitly human caught my fancy, and have filled my space. Mr. Bolton's booklet, which contains twelve views and two portraits, can be obtained, price sevenpence, at the Museum, 13, Lincoln's Inn Fields, W.C.2. As its author claims, the study of this building, inside and out, throws much light on Soane's methods, and Mr. Bolton is to be thanked for an interesting if small addition to architectural scholarship. I need scarcely acknowledge that for the quotations indicated above in the usual manner I am indebted to this booklet, which, I am sure, all students of architecture will be glad to add to their stores. I need scarcely say that Mr. Bolton is not responsible for the view I have taken of Sir John Soane. It is a poor thing, but mine own.

DIOGENES.

## THE PLATES.

### *"Shell" Hood to a House in Kensington Square.*

IT is supposed that the "shell" type of hood to doorways, so frequently found in domestic buildings of the eighteenth century, developed from the earlier form of triangular pedimented head, the modification coming about by omitting the horizontal member and then scooping out a semi-circular cove. This was treated in a variety of ways—the scallop shell being the favourite device adopted. Other interesting variations are to be found. The one shown in this issue is formed of a plaque with scroll-like decorations above and below and a filling of conventionalised leaves on either side.

### *A Louis XVI. Secrétaire.*

French furniture of the late seventeenth and eighteenth century, comprising the periods of Louis XIV., the Regency, Louis XV., and Louis XVI., represents a distinct epoch in the history of the arts. It was produced under royal patronage in the State factories, to which were attached the ablest of the French designers and craftsmen. There was a total absence of haste in its production. Years would be given to the making of an example in order to secure the highest possible degree of excellence. The bulk of the furniture thus produced went to the equipment of the royal palaces; but occasionally, as a signal favour, a piece would be given to foreign personages of royal blood. The secrétaire illustrated in this issue is an exquisite example of its period, being inlaid with various woods and mounted with chased ormolu. It is fitted with a falling front, which may be used as a table to write upon, while the interior is filled with drawers and pigeon-holes. The attempt made during the reign of Louis XVI. to curtail the extravagant waste of public money that had developed so alarmingly under his predecessor, is clearly reflected in this example, notably in the change from rococo excesses of decoration to a more dignified manner, characterised by simpler and straighter

lines. The style is full of the most charming proportion and detail, which probably accounts for its being so widely copied and reproduced.

### *Gateway to St. Bartholomew's Hospital.*

St. Bartholomew's Hospital is by general agreement considered James Gibbs's finest secular work in London. The original fabric has, of course, been added to considerably from time to time—notably by Hardwick and later by P'Anson—but the nucleus still remains the work of Gibbs. The Middle Gateway stands much as Gibbs left it when, as an inscription over the arch records, "This front was rebuilt Anno 1702, in the first year of Queen Anne." Standing isolated from the remainder of the hospital buildings, it forms a complete composition by itself. It is still the finest piece of Renaissance architecture in all Smithfield, whose modern medley of pretentious red-brick and stone elevations seem unutterably cheap in comparison. There is beauty in its every detail—its rusticated basement and gracefully proportioned arch, its tall pilasters flanked by square blocking masses, which correct any tendency to over-emphasis in the vertical dimensions, its central feature comprising coupled columns and broken pediment, with gracefully reclining figures above, the carved decorations to the window heads, and the nicely proportioned pediment that crowns the whole.

### *A Carved Oak Frame.*

This frame, for a picture or a mirror, is a singularly vigorous example of sixteenth-century craftsmanship. The carver's technical mastery of his craft is manifest, particularly in the full-length statuettes of Adam and Eve, which are remarkably well modelled and proportioned.

### *Monument to Garibaldi, Rome.*

Many are the monuments erected to Garibaldi. That in Rome, though fine in some respects, is on the whole rather unconvincing. The sculptor has sacrificed dignity somewhat to theatrical display. Had the small-scale sub-motifs at the base of the pedestal been omitted (see small view on this page) and the plain blocks retained the gain in dignity would have been considerable. There is, however, immense dramatic interest in the sculptured groups at either end (see double-page supplement).



GARIBALDI MONUMENT, ROME. PROFESSOR GALLORI, SCULPTOR.





Photo : E. Dockree.

DOORS AND DOORWAYS. XXII.—DOORWAY TO NO. 11, KENSINGTON SQUARE, LONDON.







FURNITURE. IV.—LOUIS XVI. SECRETAIRE.







MONUMENTAL ARCHITECTURE (SERIES II.). XLVII.—THE MIDDLE GATE, ST. BARTHOLOMEW'S HOSPITAL,  
SMITHFIELD, LONDON.

JAMES GIBBS. ARCHITECT.







DETAILS OF CRAFTSMANSHIP (SERIES III.). XXXV.—CARVED OAK FRAME (SIXTEENTH CENTURY PERIOD).

*(Reproduced by kind permission of the Director of the Victoria and Albert Museum.)*











MONUMENTS. XXXVII.-



ME: SCULPTURE GROUPS.

TOR.





## UTOPIA UP TO DATE.

BY C. H. B. QUENNELL, F.R.I.B.A.

IN the last of these Notes, published a fortnight since, it was suggested that Allotments, and a course of Structural Mechanics, would be useful for all budding legislators, as bearing on Growth and Construction. There is great mental refreshment to be had in a consideration of the immutable laws of Gravity, Force and Reaction, Leverage, and Turning and Bending Moments; a certain peace of mind is engendered by the logic of what must be, in contrast to the shifty evasions of modern compromise. And beyond this there is the supposition that those who are to construct should know something of the laws of construction. There is a great deal of talk about reconstruction, which will not do at all, because, when you come to think about it, there was very little about our pre-war existence which one would care to see reconstructed. It wants bombing to bits, like the slums. We have to build afresh, and see that the men who are to do it know their job. How does the average M.P. shape for building? The writer was a friend of the late William Willett, and living near one another in Kent meant journeys together, up in the morning, and down at night. It was quite safe to assume that any time spent in Willett's company meant some part of it being devoted to Daylight Saving. For many years before his death it was nearly a ruling passion, and one on which unlimited time, money, and enthusiasm were spent. The tragedy was that he died before it was adopted. Willett was complaining one day of the difficulties he was encountering, and the suggestion was made, Why not get into Parliament, where you could explain the scheme yourself? The writer then found that he had already taken the preliminary steps in this direction, but abandoned the idea in disgust when he discovered that what his Party wanted was a stiff contribution to the Party funds. They gave a clear intimation that Daylight Saving was so much flapdoodle and moonshine, not interesting them at all. What they wanted was the dollars, and somebody who would vote straight; loathed the idea of anyone with ideas. Willett undoubtedly had a streak of genius in his composition. He did fine work, and was the despair of his staff, because, being always bent on improvement, he was always altering, and the foreman in charge of one of his houses could never say that his task was finished so long as his master was about and it remained unsold. Here was a born constructor, who would have made—and did ultimately make—an admirable M.P., kept at first from rendering service to the community by the abominable system of Party funds.

Malcolm Sparkes, another builder, and the originator of the Whitley Council, can also be instanced as another constructor who has not been allowed to render full service to the community. And of the others, the ones who are not too thin-skinned, and who do not mind the thumping cheque which must be handed in as an entrance fee before one may run a course at Westminster—what has their training been? Very few men have the good fortune to be set in the paths of pleasant work. We cannot all be makers of things, or tend flocks and herds and see things grow. Or go down on the sea in ships, or do any of those other wholesome jobs which speedily set their mark on a man and make him interesting. The others, the poor commercialists, those whom industrialism claims for its own; whose ideal is to buy cheap and sell dear, and to “do unto the other feller the way he'd like to do unto you—an' do it fust.” If they can win through out of the mire, a mysterious Providence rewards them

with lots of money, as some sort of compensation for their lack of interest in other directions, and couples up the gift with ambition. So our commercialist, who knows nothing of making, but lots about buying and selling, buys his tag and becomes M.P. In due course he buys his way up through many Honours Lists, and affords us the opportunity for hero-worship. And he is a twentieth century hero, and one whom we delight to honour, and we litter the alphabet all round his name.

There are signs that all the populace are not quite satisfied, and even some of the fellow-legislators begin to talk loosely, but a Coalition of the threatened elements puts up a good fight, and rude disturbers and critics are silenced for the while. So our dealers and middlemen, the commission agents and brokers, glorified shopkeepers and lawyers, have to tackle such constructional questions as Housing and Education and the building up of industry after the War. As their upbringing has not in reality fitted them for their jobs, there may be something in the suggestion that a course of Structural Mechanics might do them good; but it would not be considered a final solution of their troubles, only a method for inducing a new train of thought. Just as the painter is grounded on the Antique, and then passes to the Life school, so the legislator who grasped the constructive principle of Mechanics would need humanising by actual contact with the everyday conditions of life. This would be met by the experimental community. In the founding of this we should not go very far astray if Sir Thomas More's recommendations were followed. As an early town-planner More's ideals, which he pictured in “Utopia,” still wait their realisation; everybody was to have a healthy home, and everybody had to work, but it was not to be all work; recreation was really to recreate. Land, and other property, was to be shared in common; there was to be freedom of opinion, toleration and opportunity for intellectual pursuits, and pleasant pastimes. Utopia was a Garden City, because its streets were wide, and there were gardens at the backs of the houses. Education was given in the early hours of the day, when people were fresh and not tired out; there were not any forlorn little “half-timers” to work in a mill from six in the morning till midday, and then get their schooling after. More insists that the State must see that its weaker members can live worthily, or they will have “a life so wretched that even a beast's life seems enviable.” He denounced the enclosures of the time. The Act, 25 Henry VIII., c. 13, 1533-34, states that the effect of these on the smallholders was such that “so discouraged with myserye and povertie that they fall dayly to thefte, robbery, and other inconvenience, or pitifully dye for hunger and colde.” “Utopia” was first published in 1516, and More's influence may be traced in this citation to an Act of Parliament. The policy of joining field to field was no more fruitful for good in the sixteenth century than it is to-day. More was a great man, and one to be commended to all builders. Speaker of the House, subsequently he became Chancellor, and Henry's chief Minister—in the end he laid down his life for religion, yet he found time to write of an ideal State which 400 years after still seems impossible of realisation.

As to the founding then of the experimental community, we have these old suggestions of Sir Thomas More, which are still quite new, and these could be followed. The new Utopia should, like the old one, be an island, to avoid contamination from the ordi-



nary twentieth-century life. There need not be anything very special about its soil, except average fertility, and that wise provision which Nature usually makes. Its population—just nice, common sort of people, wanting to do a job of work, and with some idea of doing it. The sort of people who work on allotments, and have the art of creating value. Not “long-haired lentil eaters,” or writers of articles, or any of that kidney. And the dealers, middlemen, and Jews would be reserved as the subjects for experiment.

The Constitution might resemble that of the Anglo-Saxons, before the Danish wars introduced the beginnings of Feudalism. Of their land holding Sir Charles Fortescue-Brickdale has said: “Primitive man seems to me to be much nearer the realities. He holds that land is the collective property of the tribe, which collectively protects it from foreign aggression and internal mismanagement. The individuals composing the tribe farm it for the common benefit under the direction of a headman or council of elders.” And not at all a bad idea. But if it galls somewhat to have to go so far back for a model, one might take the period just before the Black Death, when Feudalism had lost its painful grip and the rot had not set in.

As well, our Utopia would need one man very skilled in the keeping of accounts, and a doctor to make health charts.

It is quite certain that the islanders permitted to lead the natural life would very speedily do so. We should see crops rivalling those of the allotments, because there would be security of tenure. Houses would be built, and in the merry springtime, and in all probability during the other seasons as well, lovers would lead the way to matrimony, and that plentiful supply of fat, round babies necessary for the welfare of the community. In fact, there is not any need to labour the point, the islanders would do just what God Almighty planned for them, if opportunity is only offered.

In a very few years it would be possible to draw up a series of statistics showing the real value of their possessions and the standard of comfort to which they had attained. Health records would have been kept, and notes made on their chest measurement and standard of intelligence—all sorts of facts would be collected. The effect on the birth-rate would be of extraordinary interest. It should then be explained to the islanders that they were to form the subject for experiment, in that certain modern conditions, and individuals, were to be inflicted on them, but only on the distinct understanding that any damage suffered in the process would be made good, and losses written off. Any other method would savour of diabolical cruelty.

The first might be the introduction of a ground landlord, who need not be so direct in his methods as the one pictured by Anatole France—“Tandis que le moine Bulloch prononçait ces paroles, un grand pingouin à la peau blanche, au poil roux, descendait dans la vallée, un tronc d'arbre sur l'épaule. S'approchant d'un petit pingouin, tout brûlé du soleil, qui arrosait ses laitues, il lui cria:—Ton champ est à moi! Et, ayant prononcé cette parole puissante, il abattit sa massue sur la tête du petit pingouin, qui tomba mort sur la terre cultivée par ses mains.” Quite unnecessarily rough. The usual method of those who were going to enclose land was to accuse the smallholders of being idle vagabonds; their land, and chance of living, was taken away from them, and the accusation justified. “Can there be any doubt that I was right,” said the landowner, “obviously they are vagabonds—look at them now.”

In quite a little time our islanders would have lost hope, and it only needs an acquaintance with very simple arithmetic to see that they would have to work

harder than before for a smaller reward; that the ground landlord would have them in his power, body and soul, with power to drive them off the island, but in the end he would have to go, and another lot of statistics got out, and some interval allowed for the damage occasioned to be repaired, and for the islanders to regain their former state of prosperity.

There would be other experiments which could not be made, because of the damage to health and person. One could not introduce a modern factory system; no pregnant woman would be compelled to work; no child would have to be a “half-timer.” There would be laws, that person ranked far above property, and any such experiments would be unnecessary, because the health records could be compared with those of an ordinary industrial centre.

And after a little time there might not be any need for further experimenting, because emigration from the old world would mean immigration into the new. Discovery might be made of the fact that our social life is in reality governed by laws as immutable as those of Gravity. The course on Structural Mechanics would have justified itself, and Compromise would need go hang. The old world was supposed to be divided into sheep and goats, but sheep and wolves in the modern variant. The great problem is whether the former, who are numerically the stronger, can butt the latter into an unrecognisable pulp. Or the wolves may disguise themselves in sheep's clothing; or they may altogether run amok, and yet doing so they will not disprove the constructive laws they now defy.

## THE PROPOSED NATIONAL WAR MEMORIAL.

MR. WILFRED WHITTEN, writing on this subject in the “Observer,” says:

“The need for the enlargement of Westminster Abbey created by the war only reinforces a need which existed, to the point of scandal, before the war began. The Abbey was then full, and this so literally that I believe I am correct in stating that when a space of wall was required for the monument to Sir Henry Campbell-Bannerman it could not be found, and that to create it the Abbey authorities were obliged to negotiate with an old English family to permit the removal of an existing memorial. Already, therefore, on the threshold of a century which all men were agreed would be prolific in great achievements the Abbey was closed to traditional honour. That was intolerable, and had long been thought so. But now we can no longer postpone and palter. A great scheme, of which, of course, there are several versions, is in existence, and must be carried out. The ground south of the Abbey can be cleared, and upon it can be built a glorious pile, one with the Abbey in purpose and spirit.

“Here, once more, we shall lay our heroes and poets together, here our men of force and our men of thought, and noble women not a few. Undoubtedly the greatest struggle for liberty and right which our race has ever waged will furnish many memorials, but the peace which that struggle has purchased will, we may hope, in its long duration, furnish many more. Of the war and its meaning the new church itself will be the monument. For it will be a church, not a mausoleum, and this is the second principle to which I have referred. When the extension of the Abbey was examined by Royal Commission nearly twenty years ago, the then Archbishop of Canterbury laid it down with absolute convincingness that the new building should be a place of worship. Not only the fretted vault, but the pealing anthem to swell the note of praise.” The idea is excellent, and something of the sort is almost bound to be adopted.





## WAR BUILDINGS SECTION

### REINFORCED CONCRETE FOR FARM BUILDINGS AND SMALL HOLDINGS.

It is certain that, after the war, food-stuffs will be produced in this country on a much larger scale than ever before. Many persons now working allotments will be moved to take up small holdings; in addition, large numbers of discharged soldiers, having become accustomed to the open-air life, will be permanently on the land. Consequently, a considerable demand for agricultural buildings will arise. A difficulty to be faced is that for some time after the declaration of peace there is likely to be a marked shortage of the conventional materials of building; thus, the urgent national demands are to be satisfied, some immediately available means of solving the problem will have to be adopted. This is ready to hand in reinforced concrete—a material which has many advantages to recommend it, economic and hygienic. Sand and gravel for the aggregate are easily obtainable—indeed, be on or near the site—the weight of cement and steel needed is comparatively low, thus involving a minimum of transport, and the actual building operations, with, of course, efficient supervision, may be carried on largely by unskilled labour. Reinforced concrete buildings are not liable to decay or rot, they are proof against vermin. These considerable advantages taken into account form a strong recommendation of reinforced concrete for agricultural buildings, and that the material will be much more widely adopted in the days to come is a practical certainty. This being the case, it is hoped that the following notes will be of some service to those undertaking the design of buildings for agricultural purposes.

Considering the design of the small holding of the future it may be taken as an axiom that the owner will be a specialist in his own line. Experience has proved that the intensive production of the small-holder gives far greater returns per acre than the cultivation of the general supply type of farm, and if

the best results are to be obtained every structure must be designed to conform to the work that is to be carried out on the land.

Saving of expense will also dictate that only the necessary buildings are erected, though provision should always be made for extensions; for an ambitious hard-working man may require more than the average space of barn, cowsheds, etc.

Buildings may be for the purpose of a dairy, fruit, vegetable, or poultry farm, but in each a dwelling for the holder is essential.

#### *The Small-Holders' House.*

The Departmental Committee appointed by the President of the Board of Agriculture and Fisheries in its Report on Buildings for Small-Holders has given what it considers to be the minimum accommodation desirable. These sizes are set forth below, but it should be remembered that these should, if possible, be increased:

Living room .....	180 sup. ft.
Larder or pantry .....	24 „
Fuel store .....	35 „
Bedroom No. 1 .....	150 „
Bedroom No. 2 .....	100 „
Bedroom No. 3 .....	65 „

If a parlour and bathroom are included, these sizes should certainly be increased, and in all cases allowances for such extensions should be made.

The living room being the room most occupied, should be placed on the south or south-east side of the building. To avoid draughts a small lobby should be formed between this room and the open air, and where a parlour is provided it will be found most convenient for this also to be approached from the lobby. The same remark applies to the staircase, for the disadvantages arising from stairs out of a room are at once apparent.

In the scullery space should always be provided for a table, and, if a small range is installed, the necessity for fires in the living room during the summer months is obviated.

The larder must be of good size, especially if the building is at a good distance from a town, and it should be planned so that space for a tray for pig salting and for a beer barrel is provided. A range of bins for storage of home-grown food is also to be desired.

Where possible, a small wash-house should be built and the copper placed in it rather than in the scullery. If two or more small-holders' dwellings are built together the provision of a common wash-house will often save expense.

If a parlour is built, it should be large enough to contain the whole family, but the importance of remembering that the living room is the chief room of the house cannot be too much insisted upon.

The bedrooms should, if possible, possess fireplaces and a cupboard for hanging clothes. If a farm hand lives with the family a fourth bedroom, at least 65 ft. sup., should be built, and in the case of a man it is often desired that this room should be away from the bedroom floor of the house itself.

The bathroom should, if possible, be on the upper floor, for experience has proved that baths sunk in floors or formed in cupboards leading from scullery are rarely used.

The wood and coal store must be of large size and should be close to the house.

The dairy, where necessary, should be near to but quite cut off from the house and should never be used as a second larder or food store. It should face north or north-east, and, to ensure coolness, should be sunk about 18 in. below ground level. A layer of asphalt under floor and carried up walls above ground will prevent dampness penetrating, and cross ventilation is best and most cheaply effected by fixing grids with gauze covers on opposite walls.

The outbuildings should include a store for tools, perambulators and, maybe, cycles, an earth closet or water-closet, and, unless a copper is placed in scullery, a wash-house. Where a copper is needed



for warming food for animals this may often be placed in the latter, and the expense of a separate stack saved.

#### Construction.

The ground floor should be solid, for sleeper wall construction is not to be recommended, and for the upper floors a thin concrete slab offers many advantages over joists and boarding.

Roofs should be as little cut up as possible and eaves should project well over the walls below. There is no doubt that pitched roofs covered with tiles or thatch are most picturesque, but a flat carried well over walls and casting a deep shadow lends itself to distinctly southern effects and at the same time does away with all waste space in the roof.

By forming reinforced concrete piers at the corners of the building with beams at upper floor and roof level and by filling in the wall space with thin slabs, a vermin proof structure is obtained, and if a shallow insulating space is formed below roof-slab the whole building will be as dry as or drier than one of normal forms of construction.

For floor finishes wood is much to be preferred for living and bedrooms, and thin blocks laid in mastic are most satisfactory, but a saving may be made by fixing good linoleum direct to the concrete slab. Throughout the building all fittings and furniture should be strong and durable and labour-saving devices, as far as possible, installed.

It has been urged that houses of concrete would tend to form blots on the country side, but architectural character may be imparted by careful spacing of openings and by carrying over the roof slab to give deep shadows on the wall below.

#### The Farm Buildings.

These should be erected large enough to carry out the work of the farm, but the plan should always allow for the possibility of extensions. Throughout the scheme the sequence of labour should be followed, and such departments as the straw barn, food mixing room and dairy placed so that unnecessary steps are avoided to those in charge of the work.

The buildings should be near to the house, but the following points should always be remembered.

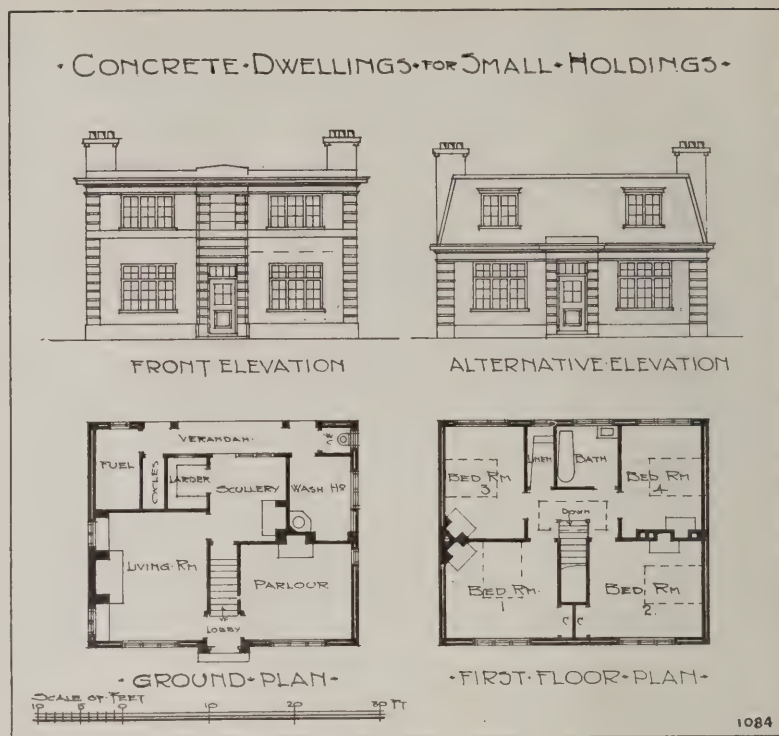
1. The buildings should be as central to the holding as is possible so that carting may be reduced to a minimum.
2. Shelter from north and east winds should, if possible, be arranged, *i.e.*, doors should not face in that direction and the position of trees and natural obstacles giving shelter should be considered.
3. They should be within easy access of the main highway.
4. The site should be dry, and hollow places avoided.

Wherever it is possible the buildings should be of permanent character, but in all cases a good foundation and a proper damp course are essential.

The principle of forming reinforced concrete posts and filling in the spaces with slabs will generally be found to be economical, but double slabs with a space between them are necessary in all cases where live stock is kept.

For roofs timber will be found most convenient, and if used on the principle applied in the well-known "Belfast" truss, quite large spans can be formed with relatively small scantlings.

For covering roofs, corrugated iron is cheap and effective, but where used over buildings occupied by live stock roof boarding should first be laid. Of course, a slate or tile roof is more lasting and has



CONCRETE DWELLINGS FOR SMALL HOLDINGS.

better appearance, and where there is a probability of the venture being a success the latter should if possible be used, and in any case timbers put in strong enough to carry them in the future.

On the ridges of all buildings provision should be made for ventilation, and this can be most easily arranged for by raising the ridges a few inches above the general roof line.

Where, however, live stock is housed, louvres that can be opened and closed have many advantages, as have the flat roof skylights that are used in corrugated roofs. Such skylights, and in fact all lights on roofs, should be glazed with wire-woven plate.

In dealing with ventilation it may be mentioned that inlets built in under eaves will ensure a regular current of air over the heads of animals to the ridge and will thus keep the atmosphere relatively pure.

In many farm buildings no eaves gutters are provided and the water from the roofs is allowed to soak into the ground around the foundations. This should never be allowed, for sooner or later settlements occur and walls are continually damp. Eaves gutters and down pipes should therefore be provided, and should be connected with drains to carry away the rain water, and the provision of a concrete tank to receive same will often be useful.

Where horses and (especially) cows are kept a large dung pit and liquid manure pit or tank should be constructed, for by its use valuable fertilising material can be obtained. It consists of a concrete floor dished to fall to centre, in which is fixed a gulley with special cover to prevent blockage. All manure from the farm is thrown on to this platform and falling rain washes out the fertilising substances which run from the gulley, through an intercepting chamber to a large concrete tank sunk in the ground, and from which the liquid is pumped up into carts and spread over the land. The bottom of the tank should be laid to fall to a sump under the inlet to pump, and manholes provided at either end.

Where a colony of small holdings is built and no sewer is near, the provision of

a small septic tank system is to be preferred, and the advantages of reinforced concrete for the tank, etc., are at once apparent. For single buildings, however, earth closets will be found most convenient on the score of expense, but the difficulty of disposing of the waste from a sink still remains. Probably the cheapest method is to discharge same over a ditch and run it thence to a point at least 60 ft. from the house by means of proper jointed pipes, and from that point a series of radiating agricultural pipes will allow the effluent to percolate into the surrounding ground.

The provision of an adequate supply of water often raises serious difficulties, where no public supply is obtainable. Wells must be sunk. Deep wells are of course expensive and shallow ones are liable to contamination from the surrounding ground.

For the well lining, reinforced concrete or stoneware clay-puddled externally will generally be found cheaper than brick lining, and the casing should be carried up at least 2 ft. above the surrounding ground and covered with a concrete or stone slab with a manhole formed in it.

Before sinking wells, enquiry should be made to make certain that the ground is not liable to floods, and hollow spaces should, therefore, always be avoided.

#### Stables.

It is possible that the small holding of the future will rely more and more on the use of machinery and that no horses will be needed, but for the present the provision of a loose box and stall is wise, the building can always be used for carting or for an extra store. Concrete with a grooved surface sloping to a channel drained through wall makes a fairly durable floor, though in course of time the constant hammering of the horses' hoofs will break it up. The channel leading through the wall discharges over a gully in open air and thus does away with drains in the building. Doors should be 4 ft. in the clear, hung to open inwards, and made high enough to clear the horses' head should it toss it when entering the building. Windows should be

h up and glazed with opaque glass. Amelated iron managers are preferable to wooden ones and hay rack should start from top of manger and be of vertical pattern, as the old type fixed high up allowed seeds and dust to get into the animals' eyes and mane.

Cow Houses.

These must be in conformity with the regulations of the Dairies, Cow Houses and Milk Shops Order, and a space of 800 cubic feet per cow where animals are kept in buildings, and 600 cubic feet where they are turned out for the day is necessary. All woodwork should be painted and in these buildings concrete should be used to construct everything that is required. The drawing shows an ideal floor, and the drainage is introduced to prevent hurt to the sides of the cows. The drain should discharge over a gully outside and run from the trough to the liquid manure pit. The feeding trough should be of fine finished concrete laid to a slight fall to outlet and at the end a large water tap that will flush the trough out channel provided, so that after the animals have fed the trough can be washed out and then filled with water for them to drink from. Divisions between stalls are not necessary but a minimum height of 3 ft. should be allowed and stalls giving 3 ft. per cow lighting surface built into the walls. If the upper part of these windows is high, to fall away with side slips to prevent draughts, ample ventilation will be secured.

Piggeries.

These must be as sanitary as possible except for the doors everything about them may be of concrete. A simple arrangement is shown on drawing, and it should be remembered that the feeding troughs should be hung at top so that pigs cannot reach trough whilst it is being filled.

Stores and Barns.

These entirely depend on the use of the holdings, for, on fruit farms, space may be required for packing and storage, but in all cases waterproof concrete floors are necessary, although a covering of wood is a desideratum where grain cake and cattle foods are stored. The doors of barns should be high enough for a loaded wagon to be drawn in and out, but where a cheap store is required the "Dutch" type formed by reinforced posts with a thin slab at top resting on connecting beams will be found economical.

Cart Sheds.

As farm vehicles are built for rough usage, there is no need for the provision of elaborate sheds; earth floors raised a little above surrounding ground are sufficient. Piers and posts along front should be replaced by a concrete beam from end to end resting on the corner piers of the building. If now the sides and back are filled in with a thin concrete slab and corrugated iron or slab roof placed above, a cheap and durable shed will be formed.

Garage.

The convenience of the small car for fetching and carrying goods to and from the station and the town and its use with tractor machinery will tend to make a garage a necessity of the small holding of the future. It need not be an expensive structure, but it must be kept warm in winter, and to save expense it should be built backing the heating copper for foods or next stable. The concrete fender shown on drawing will prevent the wheels and mudguards from striking the back wall.

In conclusion, we would urge that the present stringent bye-laws in force in many country districts be relaxed; for high cost of buildings means high cost of food, and a wider use of concrete would allow for

many economies to be made and at same time produce more sanitary and vermin-proof buildings.

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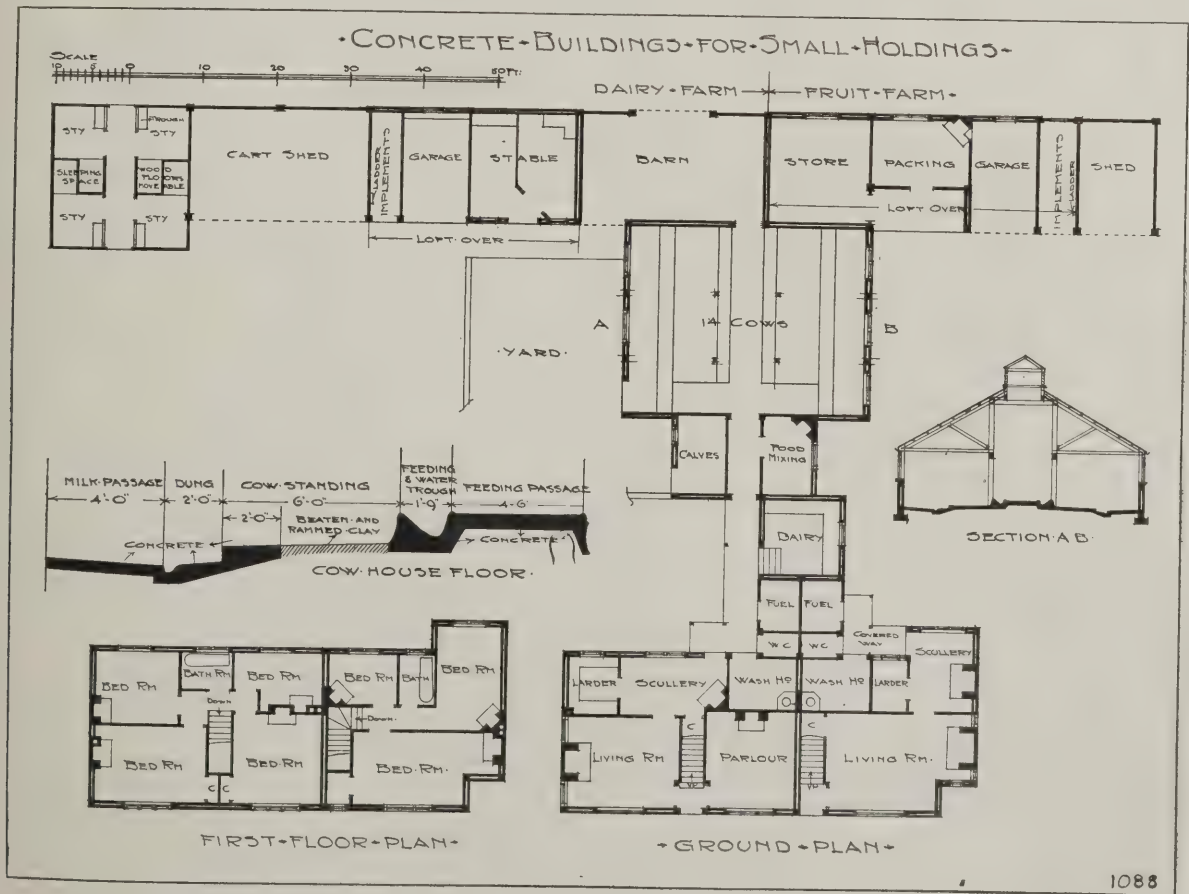
A "CHAIN-SPADE" CONCRETE-MIXING MACHINE.

In the use of concrete for construction, it is in the highest degree important to secure thorough mixing, and this object is best served by the use of machinery, which, of course, besides producing a perfectly homogeneous mixture, offers an immense further advantage in speed as compared with the slow process of mixing by hand. And as soon as the war-time restrictions on building are removed, speed will be more than ever a consideration of first-rate importance. For this, if for no other reason, machinery will supersede hand labour in every possible instance, and it would appear that inventors are busy in anticipation of this event.

Messrs. Winget, Limited, whose "Winget" concrete block and slab-making machines are rendering such signal war-time service, have newly introduced a concrete mixer that will doubtless play an important part in dealing with the rush of work after the war, and it is in the meantime proving its capacity on war work for the Admiralty, the War Office, and other Government Departments.

For the "Winget" concrete mixer the claim is made that it is the only machine which will efficiently mix semi-wet concrete, at the same time that it is of highest competency for mixing concrete of any consistency to the other extreme of wetness.

In this machine the paddle type has been adopted. It consists of six paddles rotat-



CONCRETE BUILDINGS FOR SMALL HOLDINGS.



ing at 35 r.p.m. in a semicircular trough. The cement and aggregate are fed into the hopper above the trough, whence it is discharged into the trough by depressing a lever. The paddles intimately mix the cement and aggregate together, and water is added at any stage in any quantity by turning a tap in an overhead pipe which ensures even distribution. During the whole process each operation is exposed and under the control and in sight of one operator. The concrete is finally discharged by pulling a second lever.

One size only is made at present, which has a capacity of 3 cubic feet. Sixty completely mixed charges can be passed through per hour, which is equivalent to 67 cubic yards per working day of ten hours. A larger mixer of  $\frac{1}{2}$ -cubic yard capacity is being tested out at the Winget Engineering Works, and is expected to be standardised and ready for commercial manufacture shortly.

By means of the patent chain paddles, it is claimed, the mixing is increased by more than 100 per cent. over the solid spade previously in use, which accounts for the extraordinarily large outputs given above. But equally important is the advantage that no stone can wedge between the paddles and the trough. This allows of aggregate of any shape, size, or description being used.

The reduction gearing is supported on a solid bracket attached to the trough standard, thereby ensuring the mesh always remaining in absolute adjustment. The gearing is driven from the engine shaft through a universal joint; a perfect drive resulting, no matter how unevenly the carriage is supported. All teeth are machine-cut, and enclosed in a dust-proof case.

A clutch is provided between the engine and the gearing for emergency purposes. The 3-cubic feet mixer is driven by a  $2\frac{1}{2}$  h.p. Lister paraffin engine, requiring a spoonful of petrol for starting when cold, and one pint of paraffin per hour under ordinary running conditions. The nominal speed of the engine is 450 r.p.m., but it is capable of considerable variation in speed. The patent chain spade paddles, the attention paid to the gear-

ing, and all other details, have enabled an engine of  $2\frac{1}{2}$  h.p. to be ample against the 4 h.p. engine usually required for this size of mixer. The cooling water is used for mixing with the concrete, thereby ensuring a constant flow and a cool engine. The rise of temperature of the water to the concrete is negligible. The  $\frac{1}{2}$  cubic yard mixer will be driven by an 8 h.p. Lister paraffin engine of similar design. If desired, petrol engines can be substituted for paraffin, or the mixers may be driven by electric motors, belts, or any other method.

The discharging is performed by rotating the trough on its trunnions. In the 3 cubic feet mixer this is performed by a hand-lever, and in the  $\frac{1}{2}$  cubic yard mixer the engine gives the necessary power

through a friction clutch. In both provision is made that the trough can be rotated too far, and for it to be returned to its original position ready for the charge.

One outstanding feature of the machine lies in the wear of the trough and paddles being reduced to a minimum, which, for the same reason, there is complete absence of the breakdowns usually encountered with the old spades, no grinding action can occur. As, owing to the flexibility of the machine, the same way attention has been paid to each detail to ensure easy running and low upkeep costs. Housing is provided over the engine so that the mixer can be started up at once in the open with further protection.

The engine and mixer are mounted on a strong channel frame supported on four wheels, with a fore carriage, the whole being arranged for horse haulage. The wheels are made specially wide for travelling over fields and bad ground. If desired, the wheels can be substituted for endless rollers to be run on tram lines or on a track. The weight of the 3 cubic feet mixer is  $1\frac{1}{4}$  tons complete, and the  $\frac{1}{2}$ -cubic yard mixer about 3 tons complete.

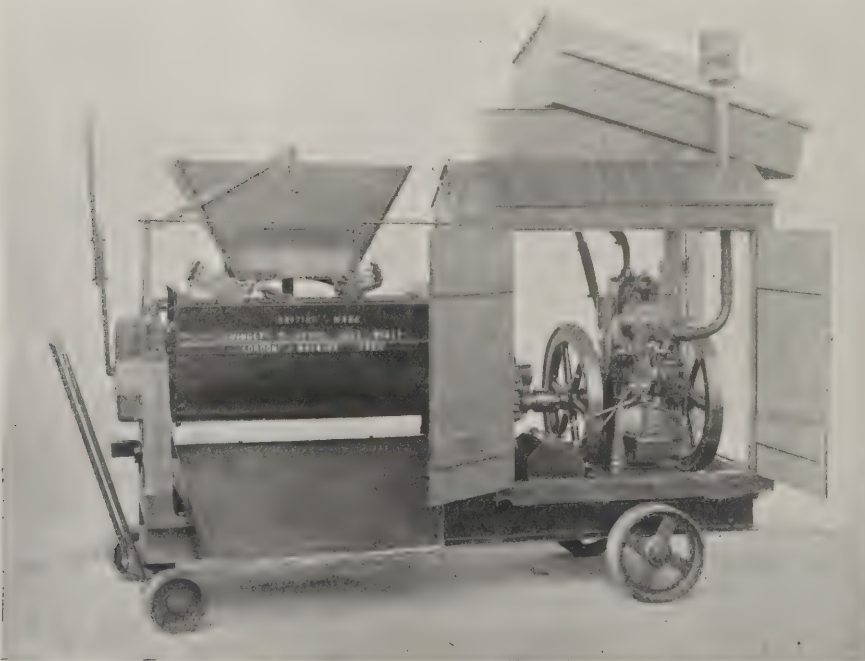
It is found on large Government contracts that the labour of five men is required by each 3 c.ft. mixer as compared to one man for the machine-mixed concrete. It is also agreed by architects, engineers, and contractors that machine-mixed concrete 7 : 1 is as strong as hand-mixed 6 : 1. At present prices this shows a saving of from £20 per week in labour and from £35 per week in cement, or a total of about £55 per week. The mixer is now present listed at £245 complete, so it pays for itself in five weeks.

Obviously this machine has been introduced at a most opportune moment in the rush to overtake building with concrete, and the appliances for mixing will play a most important part.

The accompanying illustrations of the new machine are shown by courtesy of Messrs. Winget, Limited, whose office is at 25b, Victoria Street, Westminster, their Foundry and Engineering being at "The Cape," Warwick.



THE "WINGET" CONCRETE MIXER.



THE "WINGET" CONCRETE MIXER.



## SUMMER MEETING OF THE NATIONAL FEDERATION.

The summer meeting of the National Federation of Building Trades Employers was held on Wednesday, July 31, at the Grand Hotel, Birmingham, Mr. H. Brock (the President) in the chair.

Before the ordinary business was proposed with, the Lord Mayor of Birmingham (Alderman Sir David Brooks) offered delegates a hearty welcome to the city. The course of his observations, his lordship referred to the Government housing programme, and gave it as his opinion that it would be a mistake to undertake supply of houses nationally or municipally until they had given private enterprise the fullest opportunity of meeting the difficulty. The Government had offered subsidies to municipalities for municipal house building. They had declined to approach the Government under the same facilities might be offered to private enterprise in connection with schemes approved by the local authority, and he believed that by the spirit and enterprise of the building industry they would be able to supply the urgent and pressing demand of the city. He also congratulated the Federation on the steps it was taking to form boards of liaison for the purpose of dealing with wages and conditions of employment, and the formation of a National Parliament for the building trade.

On the motion of the President, seconded by Mr. G. Elvins (President of the Midland Centre), a cordial vote of thanks was accorded the Lord Mayor.

Mr. A. G. White, the Secretary, submitted the half-yearly report, which dealt with the various questions that had come before the Council during the past six months.

Mr. R. B. Chessum (London) referred at length to the question of the position of workers in connection with men employed in aircraft manufacture, and moved that a resolution dealing with the subject, to be prepared by the President, be inserted in the report. He said that in their dealings with the Government Departments the Engineering Federation had endeavoured to enforce the view that they were the one organisation dealing with aircraft matters, and the London Master Builders' Association had succeeded in establishing recognition by the Ministry of Munitions. He emphasised the importance of the Federation obtaining representation on the Joint Standing Committees which had been set up by the Engineers' Employers' Federation in connection with the matter.

After some discussion, Mr. Chessum's proposition was agreed to and the following resolution dealing with the same was moved by Mr. S. Easten (Newcastle-upon-Tyne), and seconded by Mr. R. Costain (Liverpool), was carried: "That in the opinion of this meeting the rates of wages and conditions prevailing for employees in the wood-working branch of the aircraft industry should be the same as for that of men in the building industry." It was further resolved to refer the question of the Federation obtaining representation on the Joint Standing Committees to the Administrative Committee with power to

The Secretary reported that the Special Committee which was considering a form of contract had submitted a draft form which had been approved by the Council subject to certain amendments and to certain points therein being referred back to

the committee for further consideration. The form would be again submitted to the Federation for criticism and would be finally approved at a special Council meeting.

A lengthy report was submitted from the Housing Committee, which concluded with the following recommendations:

(1) The repeal of the Finance Act (1909-10) (Part I.) to restore confidence in building as an investment. (2) The amendment of the Rent and Mortgage Act, 1915, so as to enable the owners of property to increase the rent to cover the increased cost of repairs and the general increase in the rate of interest. (3) The abolition of the present system of rates covering local (and national) expenditure—as these are levied on one kind of property only—and the substitution thereof of some method of local income tax to cover local expenditure, all national charges being borne from the national income. (4) The basis of such local taxation to be widened so as to reach the many persons not being "occupiers of property," who now escape contributing to local expenditure for amenities they enjoy. (5) That some method be devised by which the amount of rates included in any payment of rent shall be shown separately in whatever receipt be given. (6) The present method of transfer of land to be reconsidered and simplified so as to facilitate and cheapen the cost of conveyance. (7) That public authorities should let work by competitive tenders only. (8) The by-laws for building erection to be examined and re-arranged so that, without sacrificing efficiency, the execution of housing work may be made less costly; public authorities not to be allowed to relax them for their own purposes, while compelling strict observance thereof by other persons, and that local by-laws should be subject to periodical revision. (9) The methods of construction in respect of roads and sewers in connection with housing schemes to be reconsidered with a view of adapting them to the traffic they have to carry. (10) That the Government be urged in the national interest to find some equitable scheme by which suitable houses built by private enterprise or public utility societies may receive a subsidy to cover the excess cost occasioned by the war. The committee also considered the present system of rates on buildings and its detrimental effects on building operations generally, and particularly its effect on small house property, and it commended to the meeting the following resolution, which it had approved:

"The National Federation of Building Trades Employers of Great Britain and Ireland views with grave concern the gradual decline of its trade during the years preceding the war, and the relation of this decline to the present shortage of houses, and is of opinion that the existing system of rates levied on buildings and similar hereditaments to meet charges, including both local and national expenditure, is in great measure the cause of the decline in its trade, and is consequently the chief cause of the present housing problem; and that it recommends to the Government the abolition of the present system and the transfer from local to Imperial taxation of all public expenditure which is national in character, such as education, poor rate, mental hospitals, police, and county roads, etc., as has already been recommended by several Royal Commissions of Inquiry."

The Secretary said that the report was considered by the Council at its meeting on the previous day and after making several amendments they suggested that it should be referred back to the committee for further consideration. They also passed a resolution recommending the local associations to appoint a Housing Committee to discuss housing questions with their respective local authorities.

The President formally moved that the action of the Council be confirmed.

Mr. Moffatt and other members expressed themselves in opposition to the proposal to refer the report back, and eventually it was adopted, with the deletion of the following words, "as these are levied on one kind of property only" in paragraph (3) and the words "or public utility societies" in paragraph (10).

The following resolution from the Midland Federation, dealing with the same subject, was proposed by Mr. F. Doleman (Nottingham) and agreed to: "That, in consideration of the promise made of Government support for housing schemes, the National Federation be asked to approach the Local Government Board and request them to arrange facilities to be granted to private enterprise in the erection of the houses for working classes now under consideration, and that it is desirable that the National Federation should prepare a scheme outlining how such assistance can be given."

At the request of the London Association it was resolved to circularise the regional federations suggesting that they should take up the question of excessive accident insurance premiums and urging them to approach the insurance companies with a view to obtaining a reduction.

The London Association also called attention to the enormous amount of clerical work which builders were called upon to do gratuitously for the Inland Revenue authorities in collecting revenue, but a recommendation of the Council that a request to be sent to the regional federations to apply to the authorities calling their attention to the matter and asking what scale of payment the Department was prepared to make to cover the net cost of such clerical work was defeated.

The following resolution from the Southern Counties Federation was referred to the Administrative Committee: "That in the opinion of this Federation, owing to the arrears of work in the building trade, together with immediate industrial needs after the war, it is essential that Government Departments and public bodies throughout the United Kingdom should, for a suitable period after the war, refrain from commencing any large building or constructional work (unless of very urgent national importance) until the public repair work (such as roads and railways) and private work which has accumulated during the period of the war has been completed or overtaken; and that the National Federation be requested, either by petition or deputation to the Premier, to impress the importance of this matter upon the Government. It is also suggested that all the Associations throughout the country should approach their members of Parliament with the same object."

Considerable discussion took place in reference to the delay in the issue of the proposed new list of certified occupations under the Military Service Acts. On July 5 the Federation interviewed Sir J. S. Lloyd, of the Ministry of National Service,



but they got nothing very definite in reply. Mr. E. J. Brown had thereupon sent a strongly worded telegram the previous day to Mr. McLeod at the Ministry, which elicited the following reply: "Your telegram of yesterday received. Instructions have gone out to all regions that under certain conditions men of new military age in building trades are not to be called up for military service. New list will be out in August."

Eventually the following resolution was agreed to: "That this meeting acknowledges the courtesy of the National Service Department in its telegram of yesterday, but expresses its regret with the serious delay in the issue of the certified occupations list and asks for the immediate issue of an advance copy of the list in relation to the building trade, promised to the deputations on July 5, with the ages therein as then tentatively suggested."

A further resolution was passed to the effect that the whole question of military service in the building trades be brought before the Industrial Council at its meeting to be held on the following day.

A long report of the Special Committee appointed by the Administrative Committee to reply to certain questions referred to it by the Building Materials Supply Committee of the Ministry of Reconstruction, was submitted by the secretary. The Committee stated that in their opinion, as regarded the resettlement of the building trade after the war, the vital consideration would be the supply of building materials. In order to minimise the inevitable shortage it would be necessary by intelligent anticipation to release from military service such "pivotal" men as might be necessary to reorganise and reopen their manufacturers' works, so that stocks might be accumulated before general demobilisation took place. They understood that, with the approval of the War Cabinet, the military authorities were ready and willing to release the necessary "pivotal" men at the earliest possible moment and that no difficulty need therefore be anticipated under that heading.

The Committee then go on to make a number of proposals. The country, they suggest, should be divided into nine centres, in each of which there should be appointed a Regional Committee. These Committees should obtain various particulars in regard to the amount and class of work waiting for hostilities to cease, the approximate quantities of suitable materials available, the class of labour that would first be required, and the number of men that should be released at once, and whether these should only be "pivotal" men. These particulars should be forwarded to the Central Committee, who would instruct the Regional Committees as to the order in which licences must be granted by them. The Committee urge that special consideration should be given to works commenced prior to and during the war, and that special powers be conferred for dealing with emergency work. Licences, they recommend, should not be required for works of repair and maintenance of a value up to 5 per cent. in any one year of the structural value of any building, provided always that such work should not exceed in value £1,000. In all other cases licences should be required. To prevent a possible disturbance of the labour market such as has taken place during the war, they recommend that the scheme for the better adjustment of labour conditions prepared by the National Board in collaboration with Sir G. Askwith, about to be put into operation, should be made obligatory upon everyone

who obtains a licence as one of the conditions attached to such licence. On the question of control of prices, the Committee say that, in their opinion, the excess profits tax has tended to encourage profiteering and at the same time to retard development. It is, they say, quite clear that any fixing of fair prices will be almost impossible after the war, and they therefore recommend that in place of fixing maximum prices for materials a maximum net profit on turnover should be fixed for each trade. Any profit made by a manufacturer beyond his fixed percentage on turnover to be handed over to the State in place of the present unfair excess profits tax. In regard to financial assistance, the Committee give it as their opinion that in many industries connected with the building trade, particularly in the building brick trade, such assistance will be necessary, and it should be afforded by the Treasury on favourable terms upon the advice of the Regional or Central Committee.

The report was adopted.

It was decided to hold the next meeting in London.

## TRADE AND CRAFT.

### *The Brightside Foundry and Engineering Co., Ltd.*

Mr. Frank Biggin, who has been associated with the Brightside Foundry and Engineering Co., Ltd., for thirty-six years, has been appointed a director of the company.

Mr. Biggin, in his speech at the meeting at which his election was confirmed, said that he had grown up with the firm, joining it in 1882, when quite a small boy, at a few shillings a week. After a few years at the Newhall Works, he was sent down to manage the Carbrook New Foundry. As the business developed, he took charge of the heating department, and for the last twenty years or so had devoted his energies to this branch. Of the firm's reputation as heating and ventilating engineers he felt that he had reason to feel proud, and the extent of this business may be inferred from the fact that during the six months ending December, 1917, they had orders well into six figures. With the erection of many special types of factories for the Government, the firm had to design special systems of heating and ventilating. Their work has been chiefly on shell factories, shell-filling factories, aerodromes, and aircraft works of all kinds and in various parts of the country, and whilst they were able to take on all this Government work, they were also able to give good attention to their ordinary friends, so that many of the new works which have sprung up round Sheffield, Birmingham, and London, and in other parts of the country, have been equipped with the Brightside heating installation. One of the contracts in hand at the moment is a large modern margarine factory.

Mr. Biggin paid a generous tribute to the excellent qualities and efficiency of his staff, stating that the success of the department is very largely due to their ability and enthusiasm.

"As you are aware," he concluded, "we have branch works and offices in London and Birmingham, and each of these—and the Sheffield office also—is well organised, with capable men in charge, and whilst I shall still watch over this department, I shall, I hope, be able to render good service to the other departments of the firm's business."

## NEWS ITEMS.

### *Editorial Appointments.*

Mr. Herbert W. Wills, F.R.I.B.A., was editor of the "Builder" for over years, has been appointed editor of "Architect." Mr. W. T. Plume, who has been associated with the "Builder" in sub-editorial capacity for many years, is now editor of that journal.

### *Proposed New University for the E. Midlands.*

Notts County Council have sanctioned a recommendation of the Education Committee to grant annually £5,000 to an E. Midlands University to be established at Nottingham University College. It is stated that the city was giving the buildings, valued at £160,000, and £15,000 annually, and that the neighbouring authorities—Derby and Leicester be especially enthusiastic—favoured the proposed scheme.

### *Gloucester's Housing Scheme.*

At a meeting of the Dwellings for Working Classes Committee of Gloucester City Council, the Sub-Committee reported that they had inspected land of the Corporation in various parts of the city, with a view to the selection of sites suitable for the erection of dwellings for the work classes. After considering the report of the Sub-Committee, the Committee instructed the surveyor to prepare a plan for erecting about 150 houses in one district and about 50 in another.

### *Royal Engineer Volunteers.*

Recruits are urgently required for the County of London Royal Engineer Volunteers, the headquarters of which is in Balderton Street, Oxford Street, W. The men specially wanted are carpenters, bricklayers, engineers, architects, and mechanical tradesmen. The adjutant, on receipt of a postcard, will send a book descriptive of the corps and containing instructions and explanations to anyone interested. Architects with the necessary leisure may be glad to take advantage of this opportunity of rendering valuable national service.

## "FRANCE'S DAY": THE R.I.B.A. SALUTATION.

A letter was addressed to the Institut by Mr. Arnold Bennett, head of the French Section of the Department of Propaganda, Ministry of Information, stating that it had been suggested that the Institut might care to send a message of greeting to the French nation, for publication in France through the agency of Reuter. It was requested that the message should be of a striking nature and quite short. The following greeting, drafted by Mr. John Simpson (F.), Membre Correspondant de l'Institut de France, was sent to the Ministry of Information and cabled to France:

ROYAL INSTITUTE OF BRITISH ARCHITECTS  
le 14 Juillet 1918.

Hommage à la France, berceau des Architectes de l'Institut Royal!

A l'admirable Pays, couronné de nouvelles lauriers par son indomptable résolution à l'Etoile séculaire de la Civilisation, luttant dans les ténèbres passagères, au parfait Camarade et Allié,  
Salut et Reconnaissance!



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

AUGUST 14, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1232.

## NATIONAL PAPER ECONOMY.

*Owing to the very necessary Government restrictions on paper supplies, all elements of waste must be rigorously excluded. Our readers, we are sure, will gladly assist in promoting this object, which is an item in national economy. They can co-operate with us effectually in either of two ways—(1) By placing a direct subscription for this Journal, or (2) by placing with a newsagent an order for its regular delivery.*

*The Government Paper Controller has strictly forbidden the return of unsold copies of newspapers and periodicals to the publishers. Newsagents are therefore now keenly interested in the elimination of the casual customer, and are morally compelled to obtain only those papers that have been previously ordered. This fresh development strongly emphasises the foregoing advice to place a direct subscription or to give a newsagent a standing order for regular delivery.*

AT length the national housing question has been brought to a sharp focus. On Tuesday, August 6, Mr. Hayes Fisher, President of the Local Government Board, received a deputation of members of both Houses of Parliament, to whom he made a final or perhaps a semi-final declaration of Government policy. Put briefly, the gist of his statement was that the policy embodied in the circular of March 18 holds good, and that a housing Bill as agreed to by the committee over which Mr. Long presided is to be introduced. When? That is the point. If there is to be a general election in November, the housing policy may then be thrown into the vortex, and in what shape it may emerge cannot be foretold. If the matter is referred to the electorate, a point of grave importance on which any Government would doubtless be glad of a "mandate" is that relating to the financial position of private builders and public-utility societies. On this matter Mr. Hayes Fisher reiterated what he has said many times before almost in the same words—"He did not believe that this House of Commons or any House of Commons would readily vote heavy grants of money to private builders, who naturally would not build houses unless they expected a profit." And once more he added rather plaintively that no real advice was forthcoming as to how these private builders and public-utility societies were to be used.

Stated thus baldly, the case for the private builder and the public-utility society seems absolutely hopeless. But the issues at stake are too serious to be settled out of hand in a specious phrase. It is admitted that from ninety to ninety-five per cent. of the housing of the working classes has been done hitherto by private enterprise, and has been done at a profit. It is evident further that building working-class dwellings at a profit is no longer possible. Untoward legislation has accentuated the land difficulty; materials and labour have become inordinately dear; capital that in normal conditions would have been invested in house property is being employed more profitably in other directions; the speculative builder finds himself ruled out. Housing must go on, but the most effectual agent in it is to be

excluded from it, because he expects a profit; and because he cannot compete against State-subsidised rivals. Surely if the State thus ejects him from his legitimate and very useful occupation, the State owes him some consideration, not to say compensation. At all events, the State is unwise to dispense with his special knowledge and skill acquired through much practical experience. If he "expects a profit" and shows how it can be realised, so much the better. His example will be a stimulus to the public authorities to go and do likewise, or at least it will be useful evidence that the thing can be done, and will afford a wholesome check on municipal extravagance and ineptitude. Government, it would seem, is willing to help a corporation to a loss, but is unwilling to help a private person to a profit. That is not a perfectly fair way of putting the case, but it is at least as fair a way as Mr. Hayes Fisher's.

These speculative builders are not all bloated capitalists seeking State aid to grow yet more plethoric. In many cases—perhaps in most—they trade on borrowed capital, and the sole difficulty is that they can no longer borrow it at a reasonable rate of interest. Why should not the State lend it them on favourable terms? Like the signatories to the memorandum signed by members of both Houses, "We welcome the assurance that the State is prepared to defray the greater part of the additional cost of providing houses which is due to war conditions, making its help conditional on the provision of a good type of house and lay-out, with a limited number of houses to the acre," and like them we feel that "The financial aid is given in a form which is quite inapplicable to public-utility societies and other forms of private enterprise." It is distinctly on the understanding that the whole arrangement is temporary and abnormal that it stands the slightest chance of getting through at all. This should be made thoroughly clear to the electorate, if the scheme is to be submitted to the popular vote. Neither housing nor the house-builder is to be subsidised in perpetuity, but each is to be helped over a crisis in a sort of economic disease. According to our British notions, it is, of course, most irregular for the State to finance housing; it would not be more so to assist private builders and public-utility societies—for a time. Also the practice might very profitably be extended to other departments of industry. It is not likely, indeed, that in future the State, knowing what it now does of "peaceful penetration," will stand by and callously see British industries perish for want of a little timely financial or other support. In all such cases, the interest of the State, not of the individual nor of the corporation, is the supreme consideration; and the speculative builder is not asking for charity, but is keenly desirous of continuing to serve the State in the way in which he is best qualified. Mr. Hayes Fisher should not have thrown on the builder or on the utility society the onus of suggesting a scheme. Statesmen and publicists should know best how to deal with a situation that, while perhaps less simple than on the surface it would seem to be, is yet by no means baffling in its complexity.

It is rather amusing, if somewhat disheartening, to find that while the statesman puts the onus on the



builder, the builder puts the onus on the statesman; for in the report submitted by the Housing Committee of the National Federation at the summer meeting reported in last week's issue, it was recommended "that the Government be urged in the national interest to find some equitable scheme by which suitable houses built by private enterprise or public utility societies may receive a subsidy to cover the excess cost occasioned by the war." Surely the solution of the problem in this comedy is for both parties to confer with the object of evolving a practicable scheme. Mr. Hayes Fisher's challenge, however, should certainly not be allowed to go by default. Of course, many inchoate schemes have been informally and casually suggested, but Mr. Hayes Fisher's invitation should evoke something substantial and authoritative. It will be remembered that the Federation Housing Committee's report included a reference to the existing system of rating buildings as a potent cause of the shortage of houses and of a marked decline in the prosperity of the building industry. As weekly readers of these notes are aware, we should certainly have no hesitation in finding the system of rating guilty on both counts; but, at the present moment, what Mr. Hayes Fisher wants is sound guidance on the question of State aid to private builders and public-utility societies, and, for the moment, it is unwise to confuse him with references to the tremendous question of rating, which, however, is certainly part and parcel with the housing question, and is sure to come up when the Bill is under discussion in Parliament, or even before that, if the subject of housing receives anything like adequate attention at a general election that in all probability will be almost exclusively concerned with direct war issues. Rating, as we are almost tired of saying, is absurdly unscientific, and is often iniquitous in its incidence. There can be no doubt of its injurious effect on housing, and on building interests in general. Reform in this direction is urgently needed, and until it is effected, the housing question cannot be dealt with effectively. This is a point which, simple as it is, our statesmen do not seem to have grasped. It should be perseveringly forced upon their attention.

Last week, touching lightly on the subject of unity, we said that the general yearning for it had led to the revival of the guild idea, and, further than that, to the demand for a League of Nations. About the League there is at present but little to say. Hereafter the subject will no doubt be thoroughly threshed out, and we shall then see whether it is entirely practicable, as many publicists seem confident that it is; or whether, as some pessimists hold, the project is an amiable illusion. In the meanwhile we would plead for a League of Professions, which seems practicable. Then we might go on to a League of Arts and Industries, and some others; and eventually, when each had developed fully its special function, the lot might coalesce in one grand unity. After that "the brotherhood of man, the federation of the world," would be much less remote. One step at a time, however. Will not the R.I.B.A. take it by entering the Industrial Council for the Building Trades? Their entrance would make it a real Builders' Parliament.

Architecture, says a writer in the "Manchester Guardian," is "everybody's business." It is, therefore, as the saying goes, nobody's business; which is why it is so generally neglected. Our contemporary sighs for the good old days of a hundred years ago, when some knowledge of architecture was considered indispensable to "genteel education." It was then that, having finished his college career, the young man did the "Grand Tour" and studied the Orders in their native lairs. This acquirement of a smattering of architecture had at least one useful effect—it set up

a sort of building rivalry among "men of taste," who vied with each other in the erection or the embellishment of their dwellings. This made work and promoted quality in it, but tended more to the emolument than to the dignity of the architect, who had to put up with much offensive patronage and to suffer much ignorant criticism from those who knew "too much and too little"—too much to keep silent and too little to render speech anything more than a hindrance and an embarrassment. Still, there were those whose knowledge was penetrating, and who made good use of it in conference with the architect, and, on the whole, it is better to have a knowledgeable client than an ignorant one. As a rule, the former is likely to be the more reasonable and tractable, if his knowledge has its natural concomitants of intelligence and breadth. Apart from the professional view, it is evident that architecture is an excellent instrument of education, which might and should be used not only in places of higher education, but in the common-school, where its essential principles could be applied with excellent effect to develop, for example, a sense of proportion, which, physically and morally, is one of the most important desiderata of the day.

A commonplace speech is often more effective than one glowing with eloquence and rich in revelation. Lord Inchcape, speaking in the House of Lords on Bank Holiday, was heard and read with great interest, although what he said, and his manner of saying it, were familiar to excess. In calling attention to the present and prospective financial situation of the country, he said that, even if the war ended between now and March, 1919, it would be unsafe to assume that our annual expenditure would be less for a long time than seven hundred millions—more than three times what it was before the war. To meet our huge obligations, we must produce more and export more, and consume less—go through a prolonged period of self-denial and strenuous work. If we were to maintain our position, Capital and Labour must work hand in hand, and recognise that they were interdependent. Capital must understand that it was powerless without labour, and Labour must realise that without capital and business organisation there would be no work for the workers, and that chaos would come again. Statesmanship, if guided by proper financial principles, with the aid of the wealth, the skill of the industry, the energy, the courage, the perseverance, and the law-abiding disposition of the people, the honesty of the Government and the resources of the country would see us through. We should be able to pay twenty shillings in the pound and come back to prosperity. These are very wholesome platitudes. Lord Faringdon was more pessimistic. He had heard of housing schemes to cost two hundred million pounds, and of other expensive reconstruction schemes. Earl Curzon, winding up the debate, noted that the three points that seemed to excite the warmest approval were a strong denunciation of excessive Government interference as soon as the war was over; secondly, there was wise and legitimate depreciation of any project for penalising or confiscating capital; and, thirdly, he had noted a warning against the adoption of too ambitious programmes after the war. I thought that any warnings given now would be swept aside, when the time came, by the inevitable tide of events: the pressure that would be put on any Government, not merely to repair the ravages of war, but to rebuild a shattered world, would be almost overwhelming, and no counsels of prudence that might be offered now would deter the Government of that time from doing what really, as it turned out, would not be a course of extravagance but absolutely necessary in the national interest.



## HERE AND THERE.

PEACE hath also her memorials. They have reared one in St. Olave's, Hart Street, to the late Rev. A. B. Boyd Carpenter, sometime (from 1861) rector of the parish. A most eloquent and zealous divine he was, in these qualities hardly less renowned than his brother William, who became a shop. But it is the church, and not the parson, that excites one's interest. It is in many respects the most interesting church in the City. In many respects they all are. Not all, however, have been as fortunate as St. Olave's in finding an efficient historian. Mr. Bryan Corcoran, Upper Churchwarden of St. Olave's, published, a round dozen of years ago, an admirable account of the church. I happen to have by me a copy of this pamphlet, because it is one of my hobbies to hoard such things, and of this pamphlet I have taken special care because it is a very favourable specimen of its class, and because this church has sort of fascination for me. I have actually travelled from a distant suburb to attend services at St. Olave's, Hart Street!

Mr. Corcoran's pamphlet is enriched with maps and illustrations. To an engraving of Kneller's portrait of Pepys he appends the diarist's autograph. It is written in a fair clerkly hand, as well might become a secretary to the Admiralty. But for Samuel Pepys, the church of St. Olave's, Hart Street, would probably have been destroyed in the Great Fire. He was then living at the Navy Office in Seething Lane. Under date September 4, 1666, he records in his Diary how he and Sir W. Pen dug pits in the garden, placing in them their important papers and their important wine, and Pepys his cherished "parmazan" cheese. "This afternoon, sitting melancholy with Sir W. Pen in our garden, and thinking of the certain burning of this office without extraordinary means, I did propose for the sending up of all our workmen from the Woolwich and Deptford yards . . . and to write to Mr W. Coventry to have the Duke of York's permission to pull down houses, rather than lose this office, which would much hinder the King's business." Next day he writes: "Down by Proudy's boat to Woolwich, but Lord! what a sad night it was by moonlight to see the whole City most on fire, that you might see it plain from Woolwich, as if you were by it . . . Home, and whereas I expected to have seen our house on fire, being now about seven o'clock, it was not. But the fire, and there find greater hopes than I expected, for my confidence of finding our office on fire was such, that I durst not ask any body how it was with us, till I come and saw it was not burned. It going to the fire, I find by the blowing up of the houses, and the great help given by the workmen out of the King's yards, sent up by Sir W. Pen, there is a good stop given to it, as well at Marke-lane end as ours; it having only burned the dyall of Barking Church and part of the porch, and was there quenched. Up to the top of Barking steeple, and there saw the oldest sight of desolation that I ever saw; every where great fires; oyle-cellars, and brimstone, and other things burning. I became afraid to stay there long, and therefore down again as fast as I could, the fire being spread as far as I could see it; and to Sir W. Pen's, and there eat a piece of cold meat . . ." Pepys's description of the Great Fire one re-reads many times over, always with a renewed sense of the vividness of unaffected narrative. If, like that of descriptive journalists, Daniel Defoe, he had been striving to give plausibility to a tissue of untruths, he could not have put in a more masterly touch than that about the piece of cold meat.

St. Olave's, then, is one of the few City churches that escaped the Great Fire. To Samuel Pepys, its most renowned parishioner, who was, as we have seen, the means of saving it, a monument was unveiled in 1884 by Mr. James Russell Lowell, who was then United States Minister in London, and who doubtless made the most of an occasion that would be dear to the heart of so keen and accomplished a man of letters. Lowell, from whom I once had the pleasure of a hand-shake in the hearty American fashion, did a great work, in his quiet but most impressive way, towards bringing America and Great Britain into more sympathetic relationship; and I think that his labours towards this end are bearing rich fruit now. Americans visiting London will be the more interested in St. Olave's and its Pepys monument from the recollection that their great countryman—critic, essayist, poet, humorist, speaker, diplomatist, and, above all, humanist—crossed the threshold of the church to unveil the monument designed by Sir Arthur Blomfield, who devised a handsome architectural setting for a bust modelled from the portrait painted by Hales in 1666. It is stated that the monument marks the entrance to the formerly existing gallery in which was the Navy Office pew where Pepys was accustomed to sit, listening, I suppose, to the Rev. Dr. Milles, who was rector of the parish for more than thirty years. In the nave there is conspicuous a white marble monument showing the bust of a lady looking in the direction of this pew. It is the effigy of Mrs. Elizabeth Pepys, who was but fifteen years old when she married Samuel.

In the baptistery there are memorials to Monkhouse Davison (1793) and Abram Newman (1799), who were partners in a grocery business which endures to this day. This firm, Mr. Corcoran records, was probably the first to sell China tea, of which the price in 1657 was £10 sterling per pound avoirdupois! "According to reliable ancient tradition, this was the historic house which exported to America those celebrated chests of tea which, being sunk in Boston Harbour, gave rise to the war of American Independence." From 1650 until 1890 the business was carried on at 44, Fenchurch Street. American visitors may like to know that the firm now has its quarters in Creechurch Lane, where may be seen the original sign of a crown supporting three sugar-loaves. If I were an American I should want badly to see that sign: might even try to buy it for export; but I do not for a moment suppose that any amount of money would purchase it.

There was a church of St. Olave's in the twelfth century. St. Olave's of to-day dates mainly from the middle of the fifteenth century. One of eight surviving churches of about twenty that escaped the Great Fire, it is also one of the smallest, being 54 ft. long and 54 ft. wide. Its tower, which is 135 ft. high, is surmounted by a vane in the form of a crown, which is said to commemorate Queen Elizabeth's visit to the church in 1554, when she returned thanks for her release from the Tower of London, and made a present of silken ropes for the bells. It has a remarkable gateway, with three skulls and some thighbones as adornment for its pediments. These took the fancy of Charles Dickens, who, in his "Uncommercial Traveller," speaks of the entrance to "one of my best beloved churchyards. I call it the churchyard of St. Ghastly Grim." These are perhaps mementoes of the plague, for plague victims were buried in embarrassing numbers in this churchyard. But our ancestors were partial to the



grim and ghastly memento mori. Inside, the most remarkable feature of the church is its fine wooden roof, which was renewed in 1632 after the old model. Cambered tie-beams are supported by posts resting on stone corbels to which shields are fixed. Intermediate moulded ribs are ornamented with a shield or with a flower or leaves at the junctions. Very good Perpendicular work is seen in the arcades having clustered columns of Purbeck marble. Sir Gilbert Scott, R.A., designed the reredos, which is of Caen stone and alabaster. He designed also the font, to which the ornamental cover was added in 1891. As for the carved oak pulpit, that, of course, is attributed to Grinling Gibbons. It came from the church of St. Benet Gracechurch, which was demolished in 1867, when the Elder Brethren of the Trinity House bought the pulpit and gave it to St. Olave's, which is their parish church. An old three-decker pulpit, together with the high pews having candlesticks at their angles, was cleared away in 1853.

\* \* \*

Other interesting objects are two wrought-iron hat-stands from Allhallows Staining, which serve as a reminder that in the days of Pepys the clergy were protesting against the practice of men wearing hats in church; and four wrought-iron sword-stands, which still find occasional use when the Lord Mayor, accompanied by his sheriffs, attends the church in official state. When one remembers the kind of hats that men used to wear before and during the days of Pepys, it is easy to understand that a passionate yearning to have them removed may have been based on physical and æsthetic as well as on reverential considerations. To preach to an array of tall and sombre Cromwellian sugar-loaf hats, with dour visages and uncompromising acres of starched collars under them, must have damped the ardour and depressed the doctrine of the most zealous divine. To set up the hatstands was to convey a hint as broad as a Puritan collar, or as that received by the bewhiskered candidate for ordination to whom the bishop sent his compliments and a shilling razor. In some churches, where the hint and protests against the hats had not been taken, a beadle was sent round with a long-reach. . . . It was usually sufficient to mow down two or three robust samples. Voluntary effort then disposed of the bulk with cheerful alacrity.

\* \* \*

In the wainscoted vestry there is a painting attributed to De Witte, and its ceiling is a remarkable essay in plastering. It shows in relief an angel carrying in one hand the gospels and in the other a palm branch. A one more reminder to our American friends who may find time and inclination to visit this interesting old church. Its registers record the burial in the chancel, in 1664, of George Penn. He was the uncle of William Penn, founder of Pennsylvania. We trust that these recollections of our kinship will be as pleasant to our cousins as they are to us. Not that that little matter of the teachests is entirely pleasant. Yet the fact that we are neither afraid nor ashamed to mention it may be taken as a proof of our confidence that on both sides of the Atlantic that little incident is now regarded with mere amusement. It was just a small domestic tiff over the tea-cups, and the parties to it have long ago forgiven each other, each declaring that indeed there was nothing to forgive. At the price at which tea then was, it was an awful waste of good stuff; but very likely the lesson was worth it, and any surviving chest fished out of Boston Harbour should be inscribed, *Tu doces.*

DIOGENES.

## THE PLATES.

### *Houses in London Squares.*

THE first three supplementary plates in this issue should be studied in conjunction with the article "Towards a Transformed London," by Messrs. Morris and Parnacott, who maintain that the housing difficulties of the Metropolis may be largely overcome by adapting to modern requirements those inner residential areas (such as Islington and Clerkenwell) which were created during the latter half of the eighteenth and the early years of the nineteenth century. The houses shown on these plates are from the aristocratic squares of the West End and are, of course, in excellent condition. They are included as examples of the finest class of residential work that exists around inner London. In certain districts, however, much excellent work has been allowed to come to a semi-derelict condition. In most instances, property of this description is not yet decayed beyond the possibility of rehabilitation; otherwise these articles would be of but little practical value. It is in the hope that they may assist in the rescue of much excellent work that they have been written and published.

### *A Louis XIV. Commode.*

The axiom that the applied arts reveal the history of the times to which they belong is very true in the case of French furniture, particularly that of the Louis XIV. period. The extravagant grandeur of Louis XIV. furniture, tapestries, and fittings is remarkably characteristic of the reign of that monarch, who has been rightly described as Louis the Grand. The commode illustrated in this issue is representative of the late Louis XIV. period, when "Chinese" art was a popular influence among designers and craftsmen. The panels are of black and gold Japanese lacquer. During the early phase of the fashion it was the custom to send panels to China and Japan for decoration and lacquering by native craftsmen; but later examples were wholly executed in France. With its mountings of chased ormolu and top slab of veined black marble, this commode is an excellent specimen of its kind. It will be noted that the decorative scheme of the front is contrived without any reference to the drawers, the dividing line between the two compartments rather spoiling the general effect of the design.

### *Battle Monument, West Point, New York.*

The American War of Independence is commemorated in the United States by many fine monuments; but the "Battle Monument," at West Point erected to the memory of officers and men of the Regular Army who fell during that struggle is perhaps not only the finest of them all, but one of the best of its kind erected anywhere in modern times. Usually when tall columns are employed for commemorative purposes they have an air of detachment and incompleteness, that might be regarded as inevitable, were it not for some rare instances to the contrary, such as this. But success is assured to any motif when in the capable hands of such artists as Messrs. McKim, Mead, and White. The site itself is of a remarkably striking character, and the architects have taken the fullest advantage of it in the setting of the column. A graceful Victory on a balustrade surmounts the acroter, while pairs of cannon on either side of stone balls fixed to blocks of masonry placed at intervals around the steps add interest to the platform. The names of the honoured dead are grouped between reversed torches on the circular base, and an inscription on the shaft proclaims the purpose of the monument.



LONDON FAÇADES. XVIII.—No. 1, BEDFORD SQUARE, LONDON.

THOMAS LEVERTON, ARCHITECT.

(Reproduced from the "London Survey," by kind permission of the London County Council.)







LONDON FAÇADES. XIX.—WESTERN PART OF PORTUGAL ROW, LINCOLN'S INN FIELDS, LONDON.  
(Reproduced from the "London Survey," by kind permission of the London County Council.)







DOORS AND DOORWAYS. XXIII.—DOORWAY TO NO. 15, BEDFORD SQUARE, LONDON.

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FURNITURE. V.—LATE LOUIS XIV. COMMODE.





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COMMEMORATIVE COLUMNS AND OBELISKS. 2

MCKIM, MEAD AND



THE MONUMENT, WEST POINT, NEW YORK.

ARCHITECTS.





## TOWARDS A TRANSFORMED LONDON.

BY G. LL. MORRIS AND H. PARNACOTT.

DURING the last quarter of the nineteenth century and onward no subject has been so much written about and discussed as the housing movement. Public bodies have placed it on their agenda papers, employers, employees, and professional men have discussed it at their assemblies, and aspiring candidates for political honours have advertised it in the forefront of their electioneering manifestoes. Alongside this movement, and arising out of a desire to unify it, there has grown up recently a newly awakened interest in town-planning with all that it implies. Housing, no longer an isolated problem, is now rightly regarded as an aspect of the much larger question of town-planning. One of the results of this linking-up of these two aspects of the same problem has been the birth of a more comprehensive outlook and a better attitude both of public bodies and of property owners towards the need for the proper planning of houses in their relation to environment. In this article it is intended to consider more particularly the transformation of existing houses and the urban districts in which they are situated.

So far as we know this is the first attempt to set forth the idea of their wholesale conversion as a serious contribution towards the improvement of the metropolis. Up to the present, the various activities connected with experiments in housing have been for the most part in the direction of—(1) opening up new suburban and garden suburb areas; (2) garden villages in relation to particular industries; and (3) the erection of improved workmen's town dwellings to replace those

in slum areas. Everywhere cities and towns have been spreading outwards, new suburbs have sprung up as if by magic, with little or no attempt to lay them out on definite and orderly lines, and it is only of late years that these happy-go-lucky methods have been to some extent replaced by the more carefully worked-out schemes of the garden village and the garden suburb. To these suburban growths, as we shall presently see, may be partly attributed the decline and deterioration of the inner urban districts.

*The Garden Village Idea.*

The garden village is no new idea; in the early years of the nineteenth century Robert Owen initiated a scheme for his workpeople which included the improvement of the village houses and streets at New Lanark. A similar innovation was carried out at Saltaire in Yorkshire by Sir Titus Salt, but with the advent of the railway age these preliminary experiments were forgotten, and subsequent examples were rare until very recent times.<sup>1</sup> The villages of Port Sunlight, Bournville, and Earswick, the new town of Letchworth, and the Hampstead Garden Suburb are interesting and comparatively recent experiments in the development of housing. Since these were laid out there have been a number of similar schemes either grouped around a specific industry or for the housing of professional and business men.

Most authorities appear to agree that these industrial colonies and garden suburbs are the ideal solution of the housing problem. The dwellings in these

1. "Cities in Evolution," by Professor Geddes, p. 153.



ENTRANCE TO HOUSE IN CAMBERWELL ROAD, LONDON, S.E.



schemes are either planned around a large manufactory, as in the early examples of New Lanark and the later development at Port Sunlight, or are laid out in some pleasant outlying suburban district of a large city, as at Hampstead. So far, the last-named is probably the most successful attempt to meet the demand of those who are engaged daily in the City of London, and who desire to spend their leisure away from the scene of their every-day work. In the former schemes those employed in the factory remain within reasonable distance of their employment, while the latter meets the desire of its population for a complete separation of work and leisure, with all the delights of being able to get clear away from the town into a more or less country district for a spell of fresh air and a complete change over the week-end. For many this mode of living has become almost compulsory, as towns have grown and suburbs have been pushed out further from the urban centres. The coming of the garden suburbs, with their improved planning, has increased rather than diminished the movement outwards, and, broadly speaking, the real boundary of the modern city and its environs lies at a distance of an hour's journey or thereabouts.

#### *Industrial Growth and Its Consequences.*

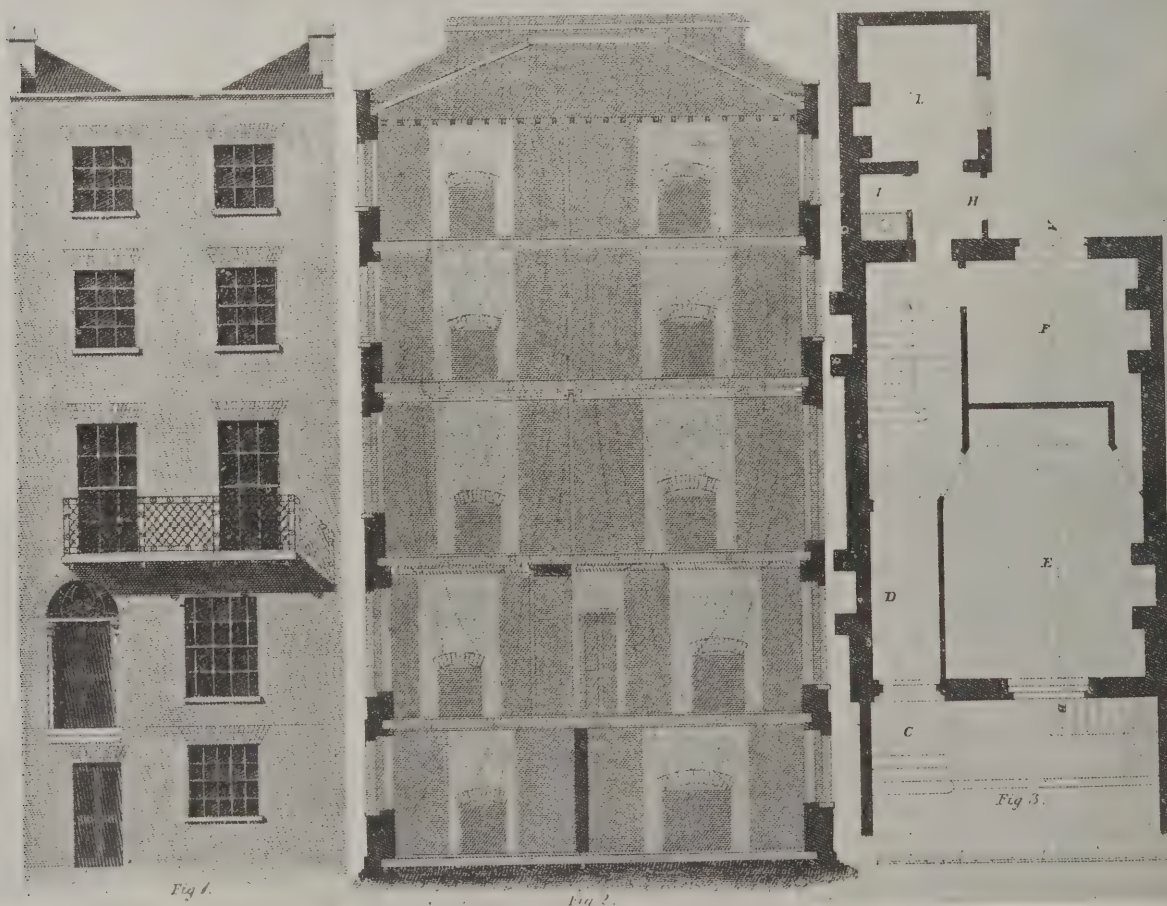
This growth process is not an isolated phenomenon characteristic of London only; every large town and group of towns forming an industrial centre has expanded in a similar way. So rapid has been this expansion that few people have adequately realised its effect upon the inner urban areas. London is a flagrant example, and bears awful witness that while the open fields on the outskirts were in course of being covered with buildings, first in a haphazard way, though later in the more interesting manner of garden suburbs, numbers of districts, formerly the well-arranged and orderly suburbs of a smaller London, have been slowly deteriorating.

Here arises the question as to whether it is wise to continue the laying-out of garden suburbs and villages without entering upon a more careful consideration of the probable result which such extensive building operations must have upon the already much depreciated town areas, and whether the resuscitation of such areas would not put a definite limit to the demand for new garden suburbs. If this be so it is necessary to prepare comprehensive and detailed architectural surveys of such areas throughout London. Their scope might be confined at first to the squares and terraces of those districts built during the period between the late eighteenth and early nineteenth centuries, and might include the drawing up of plans and notes on the structural and sanitary conditions of the houses, and the general state of the open spaces and garden squares. Their condition has become shabby, dull, dingy, and altogether unworthy of a great city. Whole districts have been neglected. Islington, Canonbury, Bloomsbury, Highbury, Finsbury, Chelsea, and Kensington are a few examples, all of them rich in domestic buildings.

No real attempt has been made to tackle the problem, although some of the worst areas attracted the attention of social reformers, and ultimately action was taken to demolish the worst of them and to rehouse in what was then thought to be the most suitable way as many people as were displaced by their demolition. An heroic attempt was made by the Metropolitan Board of Works and the London County Council to cope with the problem in so far as it affected those buildings which were beyond adaptation and conversion.

#### *Workmen's Dwellings in London.*

From the year 1855 to 1900 large blocks of workmen's dwellings were erected, the majority of them replacing old and dilapidated houses unfit for human habitation; and under the great Housing



TYPE OF SMALL HOUSE ERECTED IN LONDON DURING THE EARLY NINETEENTH CENTURY.



of 1890 the County Council became the authority for the carrying out of all such schemes.<sup>2</sup> These, as well as some semi-philanthropic enterprises, have insisted in a small degree to check the exodus from the inner areas, and also to direct attention to the problems of town housing, but they dealt only with the rehousing of the working classes in the worst slum areas; and even so the rebuilding was not accompanied by any particular regard for the architectural amenities of the district. As an example of how this may be done we must refer to the scheme carried out by Professor Adshead at Kennington for the Prince of Wales. Here is a rebuilding scheme in which the architectural traditions of the district are observed and respected, and which points to a thoughtful study of the domestic buildings in the vicinity. The planning of Courtenay Square and the quadrangle adjacent is on spacious and dignified lines, with a view to making town life attractive and pleasant, as it should be. In this latter connection Mr. Leonard Stokes, speaking at the inaugural meeting of the Town Planning Conference in 1910, said: "It would be obviously to the advantage of town property owners if people were keener to live closer to their work, and if towns were made more attractive and healthy in themselves, people would gladly live in them."

Unfortunately cities and towns, and London in particular, have been growing drearier and drearier. Those whose circumstances permit of it hasten away from them, and those who must live in them are constantly moving from district to district in the hope of discovering a neighbourhood less dreary than the one in which they are located. There must always be a large number living under urban conditions. "We have to live in towns," says Professor

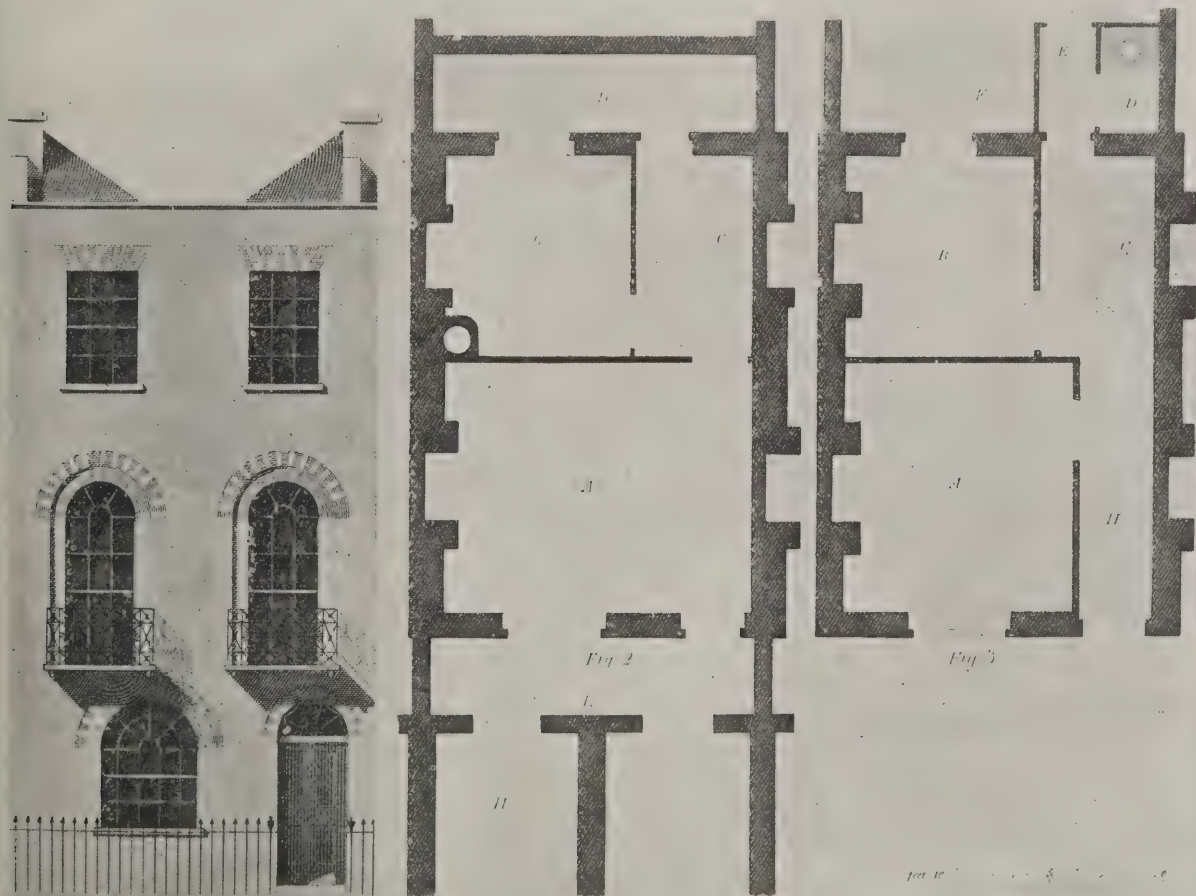
Geddes, "and on the whole, with all respect to garden cities and garden suburbs, we have to make the best of existing ones." And that is just what we have been neglecting. With the increased attention given to the arrangement of suburban areas and potential town-planning schemes there has been an almost complete ignoring of the prevailing conditions of existing urban districts. Deprived of care and consideration, they are gradually losing their value from year to year.

#### *Reparation and Adaptation.*

Sooner or later we shall have to recognise the need for their rehabilitation, and the resuscitation of the shabby and depressing squares, terraces and other open spaces, together with the adaptation and conversion of the buildings which surround them. This is not perhaps an inspiring outlook for the citizens of a large city, nor does it appeal over-much to the imagination as do the visions of potential garden suburbs and magnificent town improvements. It involves no ambitious building operations, but well-thought-out schemes for a series of adaptations and reparations extending over many districts, and always with a nice regard for the architectural characteristics of the neighbourhood in which they are undertaken. The problem requires a careful and complete survey of the existing buildings in the district, the preservation of all that is vital in them, a conservative attitude in the remodelling and a knowledge of and sympathy with the architecture of the period in which they were built. These considerations should influence every step from start to finish in the work of transformation. Many of these existing suburban houses of Late Georgian or Early Victorian origin are of considerable architectural merit (see especially the illustration on p. 75).

*(To be concluded.)*

2. "The Housing Question in London, 1855 to 1900," Preface.



TYPE OF SMALL HOUSE ERECTED IN LONDON DURING THE EARLY NINETEENTH CENTURY.



## THE DESERTED VILLAGE : MACEDONIAN STYLE.

The Eastern mind (writes Mr. T. H. Mawson in the current "Contemporary Review") is struck by the way we are combating disease, not only in the hospitals—a way which is worthy of an article in itself—but more particularly in the department responsible for the water supply, the scavenging, and the sanitary arrangements of our camps. The notion that the native population are immune from malaria and dysentery, and are, therefore, incapable of appreciating what is being done in this direction, has no basis in fact. On the contrary, the reason why there are so many deserted villages in Macedonia is not entirely accounted for by recurring wars, but in the devastating ravages of malaria, against which the natives were so powerless that they came superstitiously to regard certain districts as accursed, an impression confirmed when during the early stages of the present war they saw our men attacked in large numbers by the same malady. Now they have seen the triumph of the sanitary experts, who have brought pure water to the villages and camps, which latter are now located above the level of the marshes; also the introduction of proper precipitation methods of sewage, with perfected systems of bacterial treatment, on simple lines, constructed with local materials which make the adoption of the same methods possible by themselves. The provision of baths and everything necessary to ensure the personal cleanliness of every member of the Army, together with the careful scrutiny of every article of food consumed, has also furnished them with convincing evidence that diseases which they regarded as inevitable can be vanquished, provided alertness and energy are forthcoming.

They have also realised that in a world verging on famine it is possible, through the brooding care of the British Navy and the distributing organisations of the Army, to secure a more ample supply of food than is obtained in Athens itself. These successful enterprises by our Army and Navy have had a great effect on the people of Macedonia, who are adopting many of our ways because they are British, and, therefore, in their opinion good.

Here (Mr. Mawson continues) is one of the most striking and stimulating stories told for many a long day. In its outline it describes how an officer, now a colonel, on the Headquarters Staff, so entirely altered the habits of life and the conditions under which most of the inhabitants lived, or rather died, in a certain wretched village that the said village is now a rest camp or holiday resort for officers and men on leave; but it possesses also a spiritual essence full of a great fragrance. The village, comparatively near to one of our important lines of communication, was in such a disgusting state that it was an open question whether it should not for sanitary reasons be destroyed and the inhabitants removed from the place. The officer, however, set to work with a scavenging gang and likewise a draining, repairing, and water-laying squadron. Incidentally, he employed the inhabitants, both men and women, in the work of introducing cleanliness and order into the village, and by paying them for such tasks as washing their own houses evoked in them genuine amazement. At the same time he opened a canteen and communal kitchen run on the lines of an army canteen and at army prices—with the result

that the native food profiteers were driven out of business. He further provided a public bath and instituted bath drills for every inhabitant twice a week—whether compulsory or not it is not for us to say. The outstanding fact is that the people appreciated so much the change wrought by the officer that six months later, when he had to depart to headquarters to take up other duties, the population wept and sorrowfully escorted him to the outskirts of the village, where he is to-day accepted as the ideal of an English gentleman, strong, just, and generous.

Can we wonder (Mr. Mawson asks in conclusion) if the Macedonians, the war notwithstanding, are feeling the impulse of a great renaissance? Though these simple yet intelligent people are slow to invent, they are quick to grasp the importance of these tokens of modern science, and unmistakably inspiring is the fellowship with our breezy good-humoured generous Britishers.

The great hopes which the occupation of the Allied Armies has very naturally raised, while diversified, have their embodiment and epitome chiefly in the new Salonika, the city of their dreams. This city their Oriental imagination pictures as not only the busiest but the most beautiful port in the East. It is vastly important, for a variety of reasons, that this ideal should be sustained, as happily it can be sustained. They regard the English people as aesthetically as well as financially capable of interpreting their dreams in terms of noble structures and spacious plans, with their accompaniments of refreshing parks and gardens and captivating boulevards; and it will be most unfortunate if we should disappoint them in this particular. All these aspirations, as I have indicated, are fortunately possible without transgressing the economic and financial soundness of operations in city building. Having regard to the strategic position of Greece, and the importance of maintaining and improving our prestige in the East, our financiers, manufacturers, and merchants of this country cannot afford to do less than prove that the confidence in England's integrity and resources has been fully justified.

## BOLLING HALL, BRADFORD.

Members of the Huddersfield Naturalists Society have visited Bolling Hall, Bradford, which is now used as a museum, and contains a very fine collection of old furniture and other objects of antiquarian and historical interest. The oldest portion of the structure was of particular interest. The entrance originally seems to have been made by a drawbridge to the second floor, but as there are no indications of a moat it would probably be by some kind of a ladder or steps, which could be lifted up, and probably constructed in this way for defensive purposes. The interiors of the rooms attracted much interest, especially the deeply recessed low-arched fireplace in the kitchen and the central hall, in which the most striking feature is the handsome mullioned window, which in former times had a great amount of stained glass, and at that time must have had a beautiful effect. Some of the rooms contain interesting plastered ceilings, some of which are the work of the brothers Adam. There is a great amount of wainscoting, some of which has been rescued from the inner walls, and is now in a good state of

preservation; also, some interesting carved oak mantelpieces of the Tudor and Jacobean periods. One of the most interesting portions of the hall is a bedroom containing a Jacobean mantelpiece and a beautiful frieze and ceiling, dating from the early part of the seventeenth century.

The museum subjects which attracted particular attention were the portraits of Bradford worthies, water-colour drawings of Bradford street characters by Mr. John Sowden, old maps, playbills and pictures of bygone Bradford, and numerous cases of valuable antiques.

It is interesting to recall that the wife of President Wilson, U.S.A., is a descendant of the Bolling family, and in the museum is a piece of silk on which is printed the Bolling coat of arms, which she presented. The President's wife at the time asked for some reminiscence of the old place, and was sent some pebble taken out of the tower and round about the building.

## NEWS ITEMS.

### *Death of Mr. Thomas Costigan.*

We greatly regret the death of Mr. Thomas Costigan, who had been secretary of the London Master Builders' Association for many years prior to 1912.

### *Donaldson Medal Award.*

The Council of the Royal Institute of British Architects has awarded the Donaldson Medal to Mr. J. D. M. Harvey, B.A. (Arch.), on the recommendation of Professor F. M. Simpson.

### *Architects' Benevolent Society.*

At a recent meeting of the council of the Architects' Benevolent Society, Sir Charles A. Nicholson, Bart., M.A., was elected hon. secretary in the place of the late Mr. Mr. Percival Currey.

### *M.S.A. Mentioned in Dispatches.*

Mr. Wilfred E. Kelly, Lieut. R.N.V.R., a member of the Society of Architects, has been mentioned in dispatches for distinguished service on the night of April 2 and 23 last, during the attack on Zeppelins at Brugge-Ostend.

### *Editorial Appointments.*

We regret that, in referring last week to the recent editorial changes on two of our contemporaries, we omitted to state that Mr. T. Raffles Davison had been appointed editor's consultant to the "Builder." Mr. W. T. Plume, who is now editor, has acted for many years, not as a sub-editor, as we inadvertently stated, but as assistant editor.

### *Proposed Tunnel to Ireland.*

Several members of the House of Commons, it is said, strongly approve the Prime Minister's promise to look into the question of a channel tunnel to Ireland as soon as he can spare the time. Something like twenty years ago a deputation waited upon Mr. Balfour in the hope that the Salisbury Government would help to carry out the scheme, and a decidedly sympathetic answer was given to them. But the South African War turned the public mind in a different direction, and until now the project has been lost sight of. It was proposed that the tunnel should run from the coast of Galloway on the Scottish side to that of Antrim on the Irish side, a length including approaches, of about thirty miles. It was understood that the work would be completed in seven years.





## WAR BUILDINGS SECTION

### HOUSING THE POOREST CLASSES.\*

BY JAMES THOMSON, CITY ENGINEER AND CITY ARCHITECT, DUNDEE.

is generally recognised, particularly in industrial centres, that schemes of housing have become imperative, and if Town Council are favourably to consider the solution of the housing problem, the adjustment of preliminary arrangements and the selection of suitable sites become the first considerations, and,

in order that success may be assured, it is suggested that any resolution or instructions to make preliminary arrangements should be such as will permit a commencement to be made with work on short notice, because the demand for work is sure to be urgent, and there is much preparatory work to be done.

These preliminary arrangements have a recognised logical and convenient sequence, and are here considered in the customary order of precedence.

#### Sites.

The sites which naturally suggest themselves at the outset as suitable adjoin (a) the north, (b) the east, and (c) the west margins of the industrial areas of the city.

(a) On the north, land at Stirling Park, extending to about nine acres, the property of the Town Council as patrons of the hospital of Dundee, and situated south of Hospital Wynd, could be made available for a housing scheme.

(b) On the east, land adjoining Spring-

tracts from a report to Dundee Town Council, is a paper before the Scottish Annual Meeting of Institution of Municipal and County Engineer, at Glasgow.



PLAN OF SPRINGHILL HOUSING SCHEME, DUNDEE. JAMES THOMSON, CITY ARCHITECT.



hill, extending to about thirty-one acres, containing five separate ownerships, situated between Broughty Ferry Road and Arbroath Road.

(c) On the west, land at Logie, bordering as it does the Polepark, Brook Street, and Blackness districts, is favourably situated for a housing scheme. It extends to over twenty acres, and is practically all agricultural land. It is the property of one owner, and, therefore, the entering into any provisional agreement should not be attended with much difficulty.

#### Plans of the Lay-Out.

In preparing these plans an important, and, it is believed, a desirable, departure has been made from the former system of lay-out in Dundee and other towns. Instead of continuous ranges of tenements fronting streets, with openings only at great distances apart, it is proposed that tenements should be in short lengths, with much larger open spaces in front, in rear, and at the ends of the blocks.

As far as the levels and nature of the land permit, all tenements are so set down that the sun will reach, during a part of every day, the windows of all habitable rooms. The erection of wash-houses and cellars, usual on the back space of tenements, has been entirely omitted, and the land kept free from out-buildings, boundary walls, and similar obstructions to the free flow of air and admission of sunlight.

Reasonable space has been provided for garden allotments, and areas reserved as playgrounds for children. Bowling greens conveniently near "Springhill" and "Logie" schemes are already provided respectively at Baxter Park and Victoria Park, and ground has been set aside in the "Stirling Park Scheme" to meet the demand at any time for a bowling green for that district.

A further important departure provides land on which washhouses and baths may be erected for the use not only of those who will occupy the new houses, but for the convenience as well of other householders in the immediate neighbourhood.

Moreover, keeping fully in view that the schemes are intended to accommodate, under the best possible conditions, those who presently occupy the smallest size of house, provision is made in each scheme for land on which a day nursery may be erected.

These last-mentioned proposals relating to the provision of washhouses, baths, and day nurseries, having regard to the large number of houses in each scheme, and having in view also how essential they are to the occupiers of small houses, should be favourably considered, and should form part of any comprehensive lay-out although financially kept separate.

The work of preparing for the formation of streets and the construction of sewers, involving the making of accurate surveys and the taking of numerous levels, will extend over a period of several months, the length of time depending on the number of the office staff available for the work. Until the positions and levels of streets and sewers have been accurately fixed, progress cannot be made with plans of new buildings.

#### Type and Size of Houses.

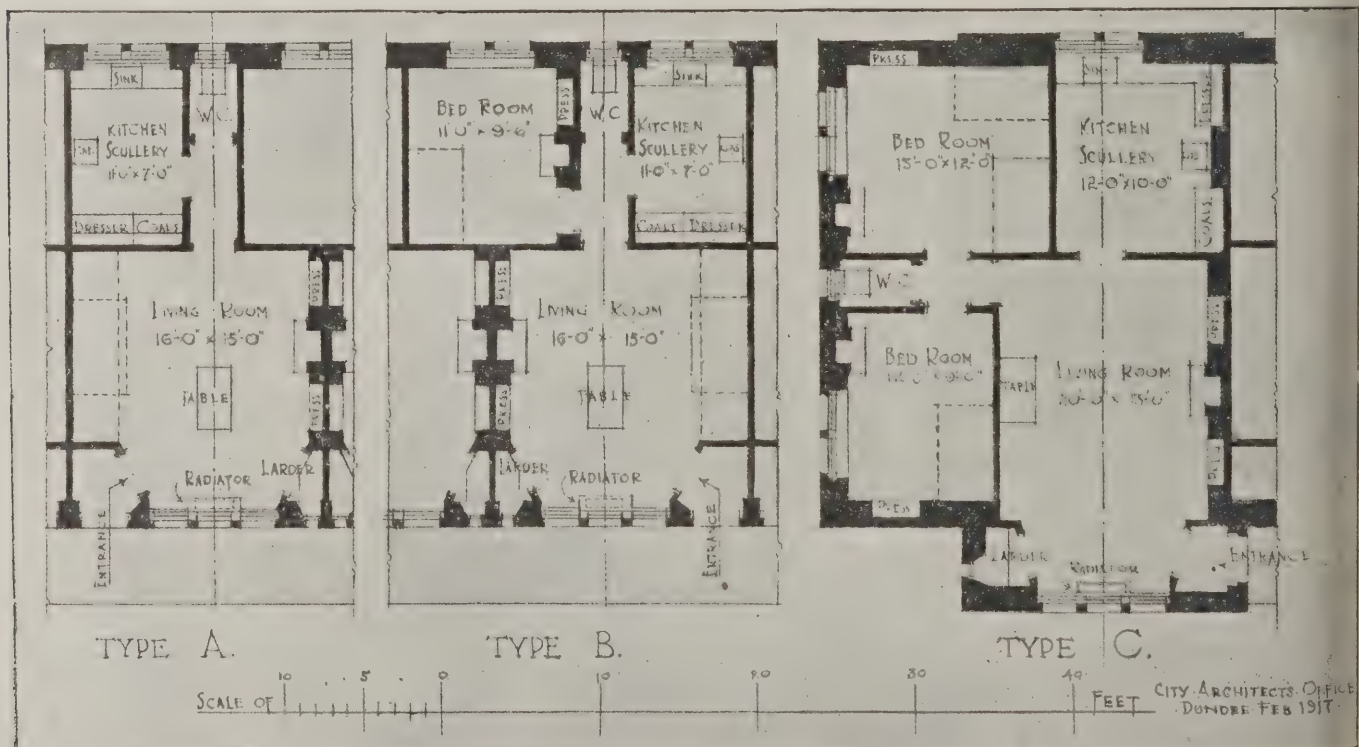
If a forward step is to be made in the type of house to be provided for the working classes, and if the type adopted is to be one which will improve not only their housing conditions but their whole environment as well, then the prevailing method of erecting high barrack-like buildings with no open space in rear except the public street and limited space in rear must come to an end. Calculated on the basis of erecting houses of three rooms, of two rooms, and of one room, each equipped with proper facilities and conveniences, the number should not exceed twenty to the acre, and this would compare with the existing practice of approximately eighty to the acre in tenement areas.

In designing houses of one room, of two rooms, and of three rooms, each containing thorough modern equipment, the aim has been to provide accommodation suitable for the requirements of those employed in the immediately adjoining in-

dustrial areas. Sketch plans are reproduced of a house which should adequately meet the requirements (a) a single woman or two single women or a widow with no family, (b) a married couple with a small family, and (c) of a married couple with a large family, and in the preparation of these plans the opportunity is taken of showing how persons of the working classes who are sufficiently aspiring may be enabled as they are clearly entitled, to raise themselves from their present insanitary and sordid surroundings to dwellings which provide nothing more than the just due of human beings. The plans indicate the minimum of accommodation reasonably required in houses of the working classes. It is specially emphasised that each should contain a living room of ample size, well lighted and ventilated, and with larger direct communication with the outer air; a kitchen-scully with gas cooker, dresser, sink, and coal bunker, with press over for utensils; and an inside water-closet entering off the kitchen-scully.

There should be no ash-pits and a special system of ash bins would be provided for the removal of house refuse. Neither there any provision for separate wash-houses on the back ground nor for bath within the dwelling-houses, a central building containing washhouses and bath being suggested for each scheme of housing, and from this central building it is recommended, having regard to the ample steam power therein, that a system of hot water supply and heating be installed and laid on, subject to control and restriction to each dwelling-house. In this connection there can be no doubt such an installation would tend to economy in fuel, convenience to occupiers, and improve sanitary conditions in dispensing with smoke from numerous chimneys.

Note.—Some description of the Dundee Housing Schemes was given in our issue for April 18, 1917. The information now published is almost wholly new, and the suggested type-plans of houses have been revised in the manner shown by the illustration below.





## PROPOSED MEMORIAL CHAPEL FOR LIVERPOOL CATHEDRAL.

The Liverpool Cathedral War Memorial scheme is now taking definite shape. Last autumn a town hall meeting approved the proposal, and since that time the committee has been formulating its detailed plans, whereby the devotion of the city's sons who fall in the war shall be perpetuated in a memorial chapel.

Notwithstanding a few not unsympathetic objections, there has been an acceptance of the idea that the cathedral should contain some commemorative tribute to those who "offered their greatest sacrifice in defence of righteousness," to quote from the committee's latest appeal, not least because the building of the noble edifice itself will have been roughly contemporaneous with the struggle in Europe. For this purpose it has been decided to adopt the eastern arm of the first transept, with the fabric of which some progress has already been made, and to mark off the chapel from the main structure by an open metal work gylle of tasteful design. Here the names of the gallant dead may be recorded for all time, memorial services be fittingly held, and regimental colours hung.

Nobly proportioned, this chapel will be enriched in tastefulness by a beautiful ceredoss and stained-glass windows portraying figure and subjects typical of the lives of soldiers and sailors, all carefully selected for their suitability. But the outstanding feature of this little sanctuary, one symbol that will popularly impress its edificative character, will be the central cenotaph. Erected on a low platform of black and white marble, this will be an alabaster structure of 3 ft. or more in height, embellished with rich allegorical carvings and with a kneeling figure at each corner of the square. Upon the cenotaph will be placed a handsomely bound volume, in which will be inscribed in permanent ink the names of the fallen, together with their units or ships. The pages will be of durable lambskin, and the record will remain as legible and imperishable, so it is claimed, as the ancient manuscripts that have survived from the distant ages.

Seeing that the names to be enumerated must extend to several thousands, this method has been chosen in favour of that of inscribing them on the walls, where they could not be read or even identified very easily. Naturally, the memorial volume cannot itself be handled by the countless visitors, and it will merely be seen under glass; but it is intended to have a printed duplicate available for public reference, and the list which is to be compiled, and which will obviously be utterly regardless of all religious divisions, will be made as complete as possible. Not only will it embrace the names of all officers and men in the local regiments, but it will also include those associated with the district who served with outside units, with the naval forces, and with the mercantile marine.

It is estimated that the memorial transept will cost about £50,000. Compared with the entire cost of the cathedral itself, this figure represents no more than twentieth part, and it provides a means, the promoters contend, whereby all classes in the city can unite in a war memorial of a distinctively religious type. No less than £15,000 has already been received by or promised to the committee, which is itself representative of

various denominational views, and an appeal is now being issued for further funds, in order that the work may be commenced as soon as circumstances permit. The cathedral architect, Mr. Gilbert Scott, has himself prepared the design of the chapel and its ornamentation, and the harmony and dignity of the central scheme are thus fully preserved.

## SIR TUDOR WALTERS'S COMMITTEE ON HOUSING.

Sir Tudor Walters's Committee on Housing has concluded its work, and is presenting its report to the President of the Local Government Board and the Secretary for Scotland. The investigation of the subject has been of a thorough character, and has occupied the Committee for twelve months. The Committee estimates that the present need for working-class houses in Great Britain is at least 500,000 houses, in addition to which, to meet the requirements of the normal increase in population, and to take the place of houses demolished, an annual supply of 100,000 new houses is needed. Towards this shortage local authorities, in reply to circulars from the Local Government Board, have so far expressed their willingness to prepare schemes subject to substantial financial assistance from the State, for about 150,000 houses in England and Wales and about 98,540 houses in Scotland. The Committee regard it as certain that whatever local authorities may be able to do, a very large proportion of working-class housing must still depend on private enterprise of one kind or another, either that of public utility societies or speculative building, and unless there is co-ordination of these various activities little will be done in many districts, and rural housing is certain to be neglected, because of the difficulty of creating a sufficient local opinion to make the authorities act. It must be remembered also that private enterprise will in the years immediately after the war be conducted under great difficulties, through high prices and the shortage both of labour and of materials.

### *Central Authority Needed.*

These circumstances have convinced the Committee that unless there is some supreme guiding direction an adequate housing programme is not likely to be carried out, but that the shortage of houses for some years after the war will increase rather than diminish. The Committee, therefore, recommends the establishment of a strong housing department, with an experienced and capable chief commissioner both at the Local Government Board for England and Wales and at the Local Government Board for Scotland. It also suggests that the country should be divided into districts and local commissioners appointed, who should work under the central control and yet have executive powers vested in them. The functions of the commissioners should be primarily to secure effective co-ordination between the various local authorities, public utility companies, and other forms of private enterprise, so that the requirements of each district may be fully met. It is also suggested that the commissioners might have discretionary powers with respect to building by-laws, so that modifications and relaxations might be made to suit the requirements of individual schemes and avoid the unnecessary expenditure of money.

### *Public Utility Societies.*

In the view of the Committee there is great scope in housing for public utility societies, which should be an important auxiliary to the work of the local authorities. The grouping of large employers in the industrial districts for the erection of villages on the outskirts planned on modern lines would be a great boon for the working classes, and would have the advantage of being carried out in the form of complete schemes rather than the present unsatisfactory method of rows of gloomy cottages surrounded by factories and works. Public authorities, as well as tenants, should be represented on the boards of management of such societies. The limitation of dividend upon the share capital, which is a condition of the formation of public-utility societies, prevents any exploitation of the tenants, and renders all surplus revenue resulting from good management available for promoting the amenities of the villages.

### *Uniformity in Method.*

It is essential, in the view of the Committee, that there should be uniformity of method applied by local authorities, and a free exchange of opinion between them, so that the experience gained may be available to all. It would be part of the duty of the Commissioners to obviate as far as possible the confusion and competition, resulting in high prices, which would certainly arise if local authorities in various parts of the country were, without consultation or arrangement, to invite tenders for large building schemes. The only men ready at once to deal with such schemes would be the contractors who have been carrying out large public works during the war, and who are employing men drawn from all over the country, whereas, in order to restore local labour to its normal conditions, the Committee thinks it most important that the building of working-class houses should be undertaken by the smaller builders, employing local men whenever possible.

### *Land Acquisition.*

The Committee considers that the whole question of land acquisition for working-class dwellings by public authorities and the legislation under which it is at present carried out needs careful consideration and revision, both as to economy in price and for the purpose of avoiding unnecessary delays. There is undoubtedly a large area of suitable land in the market which owners are anxious to sell at reasonable prices, but there are individual exceptions to this rule where local authorities are penalised by having to pay high prices for land eminently suitable for housing purposes, or where such authorities have to resort finally to expensive methods of compulsory acquisition. The Committee thinks that the co-operation and support of a local commissioner would be valuable to the local authorities in private negotiations. Where compulsory acquisition is necessary it is suggested that the special powers conferred upon State Departments by the Defence of the Realm (Acquisition of Land) Act, 1916, might with advantage be vested in the housing department for a limited period of years until the general powers of local authorities as to land acquisition can be resettled upon a more satisfactory basis. It is further suggested as worth consideration whether local authorities might not supplement their own building operations by laying out suitable land, providing sewers and roads, and leasing it for private building schemes of an approved kind.



## THE PROPOSED MINISTRY OF HEALTH.

In many directions there are echoes of Lord Willoughby de Broke's question in the House of Lords about the proposed Ministry of Health: "What is it that is hanging up this very vital reform?" "Our Civil Service Correspondent" in the "Daily Telegraph" very elaborately explains the situation. It is not, he says, in departmental jealousies, but in the complexity and magnitude of the subject itself, that the cause of the delay is to be found. The question of health is all-pervading, and this apparently simple proposal raises issues of tremendous importance, on which up to now the War Cabinet have not had the time to make up their minds. The question of the Poor Law offers the main difficulty and the greatest problem, and is in the main responsible for the holding up of the Ministry of Health.

Apart from this great outstanding question, the whole project bristles with complications, not only in the political, but also in the administrative, sphere. If you set up a Ministry of Health everyone is agreed that one of the first essentials is to centralise under its authority the present powers relating to health exercised by so many departments. The Insurance Commission would, of course, come in, but it is now recognised that on the financial side the Insurance Act has failed to provide the benefits contemplated. It is common knowledge that the provision of sanatorium treatment for London is deficient. Here is another issue on which a decision of principle is needed before any Ministry of Health Bill can reach the Statute Book. The creation of such a Ministry is not such a simple matter after all. But, however clear the case for the transference of the Insurance Commission, there are other departments exercising health powers, and the question of their separation will require very careful consideration indeed.

Can all health work be brought under the new Ministry? Are we to take away, for instance, from the Board of Education the medical side administered by it? Are we to separate from the Board of Trade its duties in regard to the health of seamen; and are we to deprive the Home Office of the administration of the health side of the Factory Acts? Other health powers may be quite easily transferred, but these are examples of health functions embedded in the administration, forming part and parcel of it, and it is clear that any decision to hand them over will require much thought and consideration, much more than it was possible for the War Cabinet to spare. It may even be found impossible to do so, or so disadvantageous as to outweigh the attractions of centralisation. At all events, these are matters which must be decided sooner or later. It is now becoming increasingly clear that the hocus-pocus methods which have been followed in dealing with this question, all these intermittent discussions between different departments and different bodies behind closed doors, have brought us no nearer to getting this vital reform established.

But the recent creation of the Home Affairs Committee, which now has the whole problem in hand, and which can give continuous attention and concentration to the subject, may enable real progress to be made with the consideration of the large questions of policy involved,

and thus at last pave the way for the introduction of a Bill. The suggestion made by Lord Sydenham and others of an Expert Committee of Inquiry may in these circumstances not be necessary, but it is to be regretted that such an investigation was not undertaken twelve months ago. However disappointing the delay, and however grievously the interests of the nation have suffered therefrom, we must guard against the more serious consequences still of hurried and ill-thought-out legislation, especially dangerous where health is concerned.

Thus far the Civil Service Correspondent of the "Daily Telegraph," for whose opinions, of course, we assume no responsibility. Our own have been already in part expressed in a previous issue, and they agree, in the main, with the contention of the "Telegraph" writer that legislation of such far-reaching effects should not be entered upon without the most careful deliberation. Much as we are indebted to medical science, and especially to preventive hygienics, we cannot help feeling that it would be in the highest degree undesirable to set up a sort of medical hierarchy which might easily degenerate into an intolerable tyranny.

## CONCRETE SHIPS.

Reports from the various reinforced concrete shipyards in England, Scotland, and Ireland shows, says the "Board of Trade Journal," that good progress is being made in the construction of 1,000-ton sea-going barges for the Admiralty Department of Merchant Shipbuilding. Vessels of this class are urgently required, and the programme of construction already authorised comprises barges and other vessels representing some 200,000 tons of shipping, and a capital outlay estimated at nearly £4,000,000, apart from the cost of land and shipyard plant. On the designs adopted the saving in steel is fully 70,000 tons on what would have been required for steel ships of the same carrying capacity. It is believed that a still larger saving will be effected when practical data become available as to the minimum proportion of reinforcement that may be employed with safety. The United States Shipping Board have not advanced quite so rapidly as our own Admiralty in the matter of concrete shipbuilding. According to latest advices, the United States has only two concrete shipyards ready for operation, compared with nearly twenty in the United Kingdom. On the other hand, America is to be credited with the completion of one reinforced concrete steamship of 5,000 tons capacity, a courageous experiment, which has been amply justified by the vessel on her trial trip and subsequent voyages. Her first voyage, made in very rough weather, was from San Francisco to Vancouver. Since then she has been to Honolulu and New Zealand, and has evidently started on a career of much usefulness.

According to official estimates the cost of wood, steel, and concrete hulls is £30, £35, and £25 per ton respectively. Hence the programme of the United States Shipping Board for fifty-eight concrete ships of 7,500 tons capacity represents an outlay on hulls alone of about £10,870,000, on the basis of 435,000 aggregate dead-weight capacity. The saving in steel will probably exceed 125,000 tons, and the saving in the cost of the vessels, as compared with steel, according to the official estimate, will be £4,350,000. At present only two of the United States Government yards have been decided upon.

## LEGAL.

### Claim for Heating Installation.

*C. P. Kennell and Co., Ltd. v. Ford.*

July 18. Official Referee's Court. Before Mr. Pollock.

This case, which was remitted to the Official Referee by Mr. Justice Bailhache of the King's Bench Division, was brought by Messrs. Charles P. Kennell and Co. Ltd., engineers, of Southwark Bridge Road, to recover from Mr. Solomon Ford, barrister, of Paper Buildings, Temple, the sum of £156 balance of account for heating and hot water installation put into a new house which defendant has built for himself at Hurstbourne, in Hampshire.

From the statement of plaintiffs' counsel (Mr. C. Scott) it appeared that in May 1916, the defendant was building a country house for himself, and he approached the plaintiffs with a view to having it fitted with heating apparatus, and a contract was entered into in which the plaintiffs undertook to do the work for the sum of £210 plus extras. There was some delay in commencing the work owing to the building not being sufficiently advanced. The men, however, were sent down, but had to be withdrawn for a time; and all that was contracted for was finished in the following January. A certain amount of delay, the plaintiffs said, had been caused by the building operations not being ready, and by the fact that owing to war conditions the firm could guarantee the delivery of work to the moment. Various points were raised in defence, the substance of which was that the installation did not produce the temperature in the house which it was expected it would produce. As to this said counsel, there was no guarantee as to the temperature. When the plaintiffs sought to find out what was the matter they found that the furnaces were choked up, and that the apparatus had not been properly attended to. Apart from that it was in working order.

The plaintiffs' case was supported by the evidence of Mr. Benjamin Daniels, the managing director of the company, and Mr. Fisher, the foreman of the works, and other witnesses.

After hearing a great deal of evidence the Referee delivered a reserved judgment.

The Official Referee dealt in detail with the circumstances which led up to the contract and the manner in which it had been carried out by the plaintiffs. The defendant, he said, contended that plaintiffs had failed to carry out their contract, inasmuch as they had not produced a uniform temperature of 60 deg. in the different parts of the house; but there did not appear to have been any undertaking that they should do so. Defendant also alleged delay, in respect of which he counterclaimed by way of damages, but he (the Referee) did not find that there had been any delay which was avoidable. The case put forward by Mr. Ford was that he was not to pay the balance of £156, but was to win that out and be paid damages because he had not been provided with an extra installation which would have cost £130 more. He found that Messrs. Kennell and Co. had performed their contract, had done the work which they had set out to do, and had carried out their work in a satisfactory manner. The result was that they were entitled to recover the balance of the claim, £156, with costs. They would also have judgment on the counterclaim, with costs.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

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TOTHILL STREET, WESTMINSTER.

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## NATIONAL PAPER ECONOMY.

*owing to the very necessary Government restrictions on paper supplies, all elements of waste must rigorously be excluded. Our readers, we are sure, gladly assist in promoting this object, which is a part of the national economy. They can co-operate with us effectually in either of two ways—(1) By placing a direct subscription for this Journal, or (2) by placing with a newsagent an order for its regular delivery.*

*The Government Paper Controller has strictly forbidden the return of unsold copies of newspapers and periodicals to the publishers. Newsagents are therefore now keenly interested in the elimination of the casual customer, and are morally compelled to obtain only those papers that have been previously ordered. This fresh development strongly emphasises the foregoing advice to place a direct subscription or to give a newsagent a standing order for regular delivery.*

FOR us it has been always a pleasure to chronicle the sayings and doings of our kindred across the seas. If we were in that disposition for many years before the war, our interest in the States, Colonies, Commonwealths, Colonies, Dependencies, whatsoever an English-speaking community abroad might be called, has certainly not diminished since the tide of blood has brought us together in the cause of humanity. In their rush to the theatre of war, our men have annihilated space. America, Canada, Australia, New Zealand, South Africa, have not been so far off since their sons have been warmly welcomed in Britain, their uniforms being as familiar to the Londoner as those of his own regiments, while we feel that the men inside them are just as closely united to us. We welcome, therefore, with, if possible, more than the old cordiality, various overseas professional publications that continue to reach us in spite of war. A recent mail included the "Kalendar of the Cape Institute of Architects" for the "nineteenth year, 1918-19."

This publication includes the annual report, from which it is possible to derive a fair idea of the present position at the Cape. At the beginning a sympathetic note is struck: "In consideration of the very exceptional times in England, where practically all private building has been suspended, your Council thought it would be a gracious act to return the annual refund of £100 made by the allied Institute (R.I.B.A.)." A small error in itself, no doubt, but most estimable in the intention and spirit. It is noted that the proposed new Cape Town building regulations were sent to the Council of the Cape Institute for final revision, and that of twenty-eight groups of amendments proposed, twenty-five were carried, and the section dealing with "forced concrete was amended to meet Institute objections"—an ugly word, for which, it may be imagined, "suggestions" would have served very well; for although we are without evidence of the merits of the amendments, it may be safely assumed that they were none of them dictated by selfish interests, but represented in every instance the difference between the lay and the technical point of view. In such matters architects could multiply indefinitely

their invaluable services to the community, if greater opportunities were given them. Architects should not sit, like bashful ladies at a ball, modestly waiting to be asked to take the floor. They should boldly take it on their own initiative—of course acting corporately.

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Wise as the serpent, benign as the dove, the Cape Institute "considered that when the constitution and aims of the Cape University were under discussion was the time to press upon the authorities the claims of our profession to be recognised, and a Chair of Architecture founded." It was an opportune movement, and would probably have succeeded if funds had permitted the foundation of a seriously contemplated "Chair of Architecture and Arts and Crafts." Credit must be given to the Institute for its alertness in seizing the psychological moment for pressing the claims not "of our profession," as the report somewhat unfortunately words it, but of architecture as a vehicle of education and refinement. It is now open to our own R.I.B.A. to do a great educational work by pressing the claims of architecture at the universities. It is rather humiliating to find that in this respect our overseas kindred are ahead of us. The British Institute should have drawn up and circulated a comprehensive scheme of professional education—circulated, that is, at first in proof for the consideration of all concerned, and afterwards as a revised document for guidance in procedure. Heavy expense would be involved, and should not fall wholly on the Institute; architects everywhere would surely be very willing, even eager, to share it, for they realise to how great an extent the future of the profession, and to a degree the future of the art and science of architecture, depend on educational organisation. It is regrettable that a committee of the entire nation—a kind of ecumenical council—on education has not been called. We should then have had a much better Education Act than that which has been rushed through, and professional and technical education would have suffered less neglect.

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An advertisement for competitive designs, estimates, and tenders for workmen's dwellings—the statement is not quite explicit, but we infer that tendering was expected from architects—having been issued by the Cape Town Council, the Council of the Cape Institute protested against the conditions as "impracticable." It is rather surprising that the Town Council refused to listen to reason. Their erroneous first impression that architects could be induced to underbid each other for a job might have been excused until the error was explained to them, but their persistence in it afterwards is not easy to understand. Naturally they suffered for their obstinacy. It happened that the organised contractors also had some ground for dissatisfaction, and at a joint meeting it was resolved to ignore the competition, the response to which was naturally very unsatisfactory to the corporation. It would not be altogether without precedent if ultimately the corporation had to yield: but it would have been much more pleasant all round if they had done it with a good grace after listening to reason. But why are corporations, at home and abroad, so hopelessly ignorant or so wilfully perverse in these matters? It is the duty of organised architects to instruct them, or at least to see that they are kept properly informed.



Our own professional organisations, central and local, are not quite sufficiently aggressive in public affairs in which they are more or less directly interested. It is a worse mistake to be too modest in such matters than it would be to be too self-assertive. It is better to be accused of "pushfulness" than to be guilty of the stand-offness of the priest and the Levite in the parable. Often there arise matters in which architects have a clear call to intervene, when if they refrain they are guilty of a plain dereliction of duty; for there is a point at which self-abnegation becomes a serious weakness, if not a positive vice. A body of architects should be careful to set a good example of good citizenship. Our Cape Town friends seem to have a good endowment of public spirit. For instance, they have asked their Government to give special attention to the development of the natural resources of the Union, especially as regards timber. Either the Government over there is more complaisant than ours, or the Cape Institute is more persuasive or more forceful than ours; for, in the upshot, a forestry officer having special knowledge of seasoning timber for building will probably be appointed. Apparently the Cape Institute is addressing itself with much zeal to this matter of development, for it has nominated a standing committee to facilitate the development of the natural resources of South Africa in materials required for the construction of buildings. It will be remembered that we have chronicled recently a similar movement in which the architects of Ireland are keenly interesting themselves.

One most gratifying if subsidiary result of the advance of the Allies is the rescue of Amiens Cathedral. Mr. Beach Thomas, the "Daily Mail" war correspondent, describes "a simple but moving ceremony in Amiens Cathedral to celebrate the immediate escape of 'this acme of perfection of Gothic art' from violent destruction." He describes with graphic simplicity how the steps of the arriving congregation grated in the rubble thrown up by a shell that had broken the roof and floor of the southern aisle and the windows of the northern; and how the wounded soldiers in uniform serving before the high altar, the impromptu pulpit, the patrol of the high church dignitaries acting as their own vergers, "gave the historic service the homeliness almost of a village church, though we were celebrating a crisis in Armageddon in one of the largest and most perfect of all cathedrals." Mr. Thomas adds that the nearest point of the battle line is now sixteen miles away "from the dead streets and the wounded cathedral." He finds that, happily, the structural damage from the three shells that struck through to the interior is not beyond remedy. That it is beyond repetition during the present campaign seems in the highest degree probable. There are, however, dangers from the air; but these also are growing beautifully less with the steady repression of the Huns.

It is pleasant to learn that portions of the British Museum have been reopened to the public. It is a proof—not strictly valid in formal logic, perhaps, but nevertheless of practical sufficiency—that they should never have been closed, even against the foe within the gates who, before the war, was threatening our most cherished monuments with destruction. There was simply no reasonable excuse for closing the doors of our national museum at the very moment in historical time when thousands of overseas sons and cousins were getting their one opportunity of seeing it. Those who go back without seeing the nation's art treasures will find their explanation somewhat coldly received; for it is well-nigh incredible that fussy patriotism—of the kind that impels its victim to "do something," even something panicky and foolish—

could have been permitted to go to such ridiculous lengths. It is very right to take every reasonable means of safeguarding those treasures from aerial attack; but to shut up the show was not rational. If there were no alternative, it would have been more sensible to take the risk of damage to a few rather than to obliterate the collection for the duration of the war. A rather late repentance having restored to us some of the means of keeping civilisation alive, this example should be followed by other persons who made such indecent haste to shut themselves up in "Fort Fun." Thanks to the sturdy stand made by some of the British Museum officials, the reading rotunda there has not been closed; but the reading rooms in many public libraries have been shut up ever since the war broke out. This is little short of scandalous, and is not only robbing the ratepayers of their rights, but—especially in Westminster, for instance—is depriving soldiers and sailors of a measure of hospitality that they have every right to expect.

Where Dora intervenes, there is, of course, no remedy; but it is fairly questionable whether the action of a municipal council in shutting up the reading-rooms of its public libraries is not *ultra vires*. Will not some band of public-spirited citizens get up a test case to try the issue? Beyond public control, but not superior to protest, are such cases as that of the early closing of the library of the Patent Office, which used to be open until ten p.m., and is now closed at five, to the very considerable curtailment of its utility. Such encroachments on the public rights and privileges may become permanent if they are silently endured, and a rousing protest would do no harm.

What is to be done with the fragments of timber that have been removed in the process of strengthening the venerable roof of Westminster Hall. They have been, it is said, deposited on the green in front of the Cromwell statue without any apparent regard for their interest as relics, and it has been suggested that some of them should be preserved in museums. If they are merely formless bits of decayed wood, they had better be burnt, and that speedily, lest they should spread their infection; those pieces that are of pathological interest, so to speak, being of course kept for scientific investigation and experiment with a view to prevention and cure of the disease. If the enterprising beetle to whom the damage is attributed can be captured alive, it will be useful to study his habits, ascertain his preferences in wood diet, and to find out what most disagrees with his digestion and puts him off his appetite. We may be very sure that Sir John Baines, who is repairing the roof, will do all that is worth doing with the old timber.

It will be remembered that the amount voted for repairing the Westminster Hall roof was sixty thousand pounds; and that the proposal to strengthen with steelwork had the approval of Sir Aston Webb, Mr. Reginald Blomfield, and other eminent architects. It was, indeed, obviously the only way to secure stability without destroying the ancient woodwork which is admittedly the finest extant specimen of mediæval carpentry, whether its artistry or scientific construction be taken as the criterion. Its only bearing is at the extremities of the great ribs which abut against the side-walls and rest upon twenty-six sculptured stone corbels. At half the height the timber arches spring from the stone string course; so that the upper half of the height of the building is entirely of timber, unrivalled for its carved detail. Carved angels bearing shields of the arms of Richard the Second or of Edward the Confessor add to the hammer-beams, and give the roof-timbers an impressive dignity. But for the war, the work would no doubt have been finished by now.



## HERE AND THERE.

ALTHOUGH the reports of the Mosely Industrial Commission were published so long ago as 1903, they establish many conclusions that time cannot stale nor custom wither. Some of these are of particular interest just now, when America is standing forward no less prominently than the need for industrial reconstruction in our own country. Now, as in 1902, when the delegates visited the United States, it is to that country that we look most hopefully for solutions of some of the most pressing of the industrial problems that beset us. There were two-and-twenty delegates, representing as many trade unions. Each has given a set of questions to answer, and each was invited to write a separate report on what he saw. In his preface to the volume in which these reports were printed, Mr. Mosely said, "My personal conclusion is that the true-born American is a better educated, better housed, better fed, better clothed, and more energetic man than his British brother, and infinitely more sober; as a natural consequence, he is more capable of using his brains as well as his hands. Many of the men, however, holding leading positions are either English or Scotch, and the American himself is justly proud of his British descent."

Mr. Mosely was, to be sure, fully entitled to this opinion, but should not, perhaps, have expressed it in his preface. Perhaps he held the general belief that nobody reads prefaces, and that therefore nothing he might say in that department would prejudice the text. Anyhow, there it stands, and I should like to believe that the odious comparison is at least less injurious to-day than it was some fifteen years ago. Mr. Mosely goes on, "One of the principal reasons why the American workman is better than the Britisher is that he has received a sounder and better education, whereby he has been more thoroughly fitted for the struggles of later life; and I believe all my delegates were themselves immensely impressed with the generally high standard of education in the United States—a standard it would be well for our own nation to copy as far as practicable." In the present circumstances it would be bad manners to contradict Mr. Mosely on these points: but our American allies and guests will pardon my frankness in saying I should like to, awfully, for I have excellent reasons for believing that the British workman is not so black as he is painted, and is by a long way more sober.

Against this further judgment of Mr. Mosely's I could enter neither protest nor appeal: "In my previous trips to America I had been forcibly struck by the up-to-date methods of production there, both from a business standpoint and as regards the equipment of their workshops. The manufacturers there do not hesitate to put in the very latest machinery at whatever cost, and from time to time to sacrifice large sums by scrapping the old whenever improvements are brought out." If this information is not deadly familiar to this country, it certainly ought to be. It has been poured into our ears incessantly ever since Mr. Mosely reached it—and, indeed, for a long time before that. Yet we did not apply the lesson until the war broke out. It was not until then that wholesale scrapping began. "Labour-saving machinery," Mr. Mosely assumes, "is widely used everywhere, and is encouraged by the unions and welcomed by the men, because experience has shown them that in reality machinery is their best friend. It saves the workman enormous manual exertion, raises his wages, tends towards a higher standard of life, and, further, rather

creates work than reduces the number of hands employed." These observations were more of the nature of discoveries when Mr. Mosely wrote them down than they are now. In fact, it is because they have now become rather trite truisms that there is some danger of their being disregarded.

A point that struck Mr. Mosely "with enormous force" was "the close touch and sympathy between master and man." This language must have seemed to the Americans excessively foreign, and of mediæval origin. Master and man! Well, I suppose it is as possible for the master to be no man as it is for the man to be no master—even of his craft. But I would earnestly advise that the phrase should be dropped. Trade-unionists consider it offensive. We are a proud race and a sentimental. I suppose employer and employee would be accepted as inoffensive, except when some ignoramus wants to spell employee with an accent that gives the word a false meaning. "Boss" I do not much like. It is pretty well acclimatised among us, but it always suggests to me a certain obliquity of vision. Abnormal sight is also suggested in the strangely concocted word "overseer," which has been defined as "one who sees too much and overlooks a great deal." But why on earth should Mr. Mosely have been "struck all of a heap," as the idiom goes, by the simple spectacle of employer and employee respecting each other? To answer that question correctly would be to reveal the not very deeply hidden source of much labour unrest. It is because the employer has become so apt to regard himself—at least he has managed to convey that impression—as a Superior Being, austere, remote, unapproachable by the mere mechanic, and because he has delegated to underlings so much of the work that he ought to do himself, that he has alienated the sympathy of the workers, to whom he seems either more or less than human.

It is no matter to us what the one and the other is called, though it may mean much when it is allowed to colour and embitter an industrial dispute. In America, it seems, there is more "equality of consideration" than we have hitherto known on this side of the water. America is not troubled with the many relics of feudalism that linger here—at least, Uncle Sam does not allow caste to interfere with business. Here, on the contrary, there is a very mischievous assumption that the employer is gold and the employee pewter, "and never the twain may meet." Consequently, there is an almost complete absence of the sympathy that comes of understanding, of the understanding that comes of contact. There is, too, a difference in the way in which machinery is regarded in the two countries. In America the advantages accruing from its use are more equitably distributed than they are in this country, where there is a strong disposition to give the customer the lion's share of the advantages, and to belittle the claim of the worker. These are matters that are no doubt down for consideration by the Industrial Council for the Building Trades, to which, I am glad to see, the organised carpenters and joiners have signified, by an overwhelming majority in the ballot, their willingness to give a fair trial. They have thus shown more wisdom than the engineers, who always seem to be spoiling for a fight. I had intended to recall for comment some of the points in the reports by the Mosely delegates representing the building trades; but the introductory matter has brought me to the end of my space.

DIODENES.



## TOWARDS A TRANSFORMED LONDON.

BY G. LL. MORRIS AND H. PARNACOTT.

*(Concluded from page 77, No. 1232).*

OF late years much thought has been given by architects to the repair and adaptation of mediæval and renaissance domestic buildings, and it is in the same spirit, and for more urgent reasons, that it is necessary to adapt, to repair, and to give a new lease of life to buildings of more recent erection. Since the development of railways their deterioration has been so gradual that few of the present generation can imagine any other condition than that in which they are found to-day. Changes have taken place, but never so rapidly as to present a striking alteration at any given time. In short, we have grown used to squalor, dirt, and dilapidation. Surely one of the most important duties in the administration of a great city is to care for and keep beautiful all the worthy existing buildings, the gardens, the terraces, and the squares. If we are unable to accomplish so much, no magnificent town planning can hasten our regeneration in these matters. It is not the public authorities and property owners who are alone to blame, for the responsibility rests as much with the public as with those who represent them. Questions of improvement, upkeep, and repair are the concern of the community as well as of the individual property owner; and it should not be within the power of the latter or his architect to alter and erect buildings which ignore the general harmony of a square or street. If he is not prepared voluntarily to subscribe to those rules which have governed the erection of existing buildings means should be adopted to induce in him a more amenable frame of mind.

*Disfigurement of Residential Areas.*

At present there is apparently no law to prevent a freeholder from putting up a factory in a residential square and no one sees any objection to such action; indeed, the general opinion would be that the neighbourhood is much improved thereby, that business is increased, and that more money circulates in the district. The point of view of a writer in the "Daily Chronicle" is typical. He asked lately why the smaller London squares could not be utilised to supply the dwellers thereabouts with eggs, and our own Government has set an example of utilitarianism by choosing the public gardens on the Embankment for the erection of temporary war buildings. The writer referred to wanted the inhabitants to club together to provide the poultry, the runs, and the coops. He mentions that the squares are very little used, but for this statement there is no foundation. They are frequently utilised as local dustbins. We have ourselves discovered in many of them old boots, broken bottles, battered galvanised-iron bins, broken crockeryware, and brick-bats. The war might be held responsible for this state of affairs, but, unfortunately, long before the war examples of this short-sighted treatment of public spaces were as commonplace as the mutilated condition of the houses around the squares. Rochester Square is now a nursery garden, dotted with glass houses, and even worse are Arundel Square and Barnsbury Square, and the open space between Duncan Terrace and Colebrooke Row, Islington.

In Barnsbury Square domestic buildings have been demolished and factory premises erected in their place, and the garden has become the happy hunting ground of cats and dogs. These, and many well-designed squares, have been disfigured by an ignorant disregard for their well-proportioned dwellings. Frequently

portions of a square or terrace are ruthlessly demolished to give way to houses poor in design; a commercial buildings, several stories in height, erected, with no respect whatsoever for existing work. Every year that passes adds to the number, and signs are yet forthcoming that any move is likely to be made to check this blatant vandalism. If an old Tudor manor house be in danger from the hands of the restorers, thoughtful architects and the intelligent public are aroused to indignation. Protests fill the art magazines and overflow into the columns of the Press. The Society for the Protection of Ancient Buildings steps in and the old building is probably saved. If, on the other hand, a stucco West-end square or a stock-brick terrace at the King's Road, Chelsea, is in a like danger no vehement protest is heard, though there are sound reasons why the latter should be similarly respected.

*Vandalism of the 'Nineties.*

It is not, however, for these reasons that we plead for the careful adaptation to modern needs of such late buildings, but that London simply cannot afford, from the point of view of order, beauty, and health, to continue its neglect and orgy of destruction. Between the years 1894 and 1900 quite a number of these late buildings were mutilated or destroyed, including nearly the whole of Adam Street, Adelphi, part of Stratford Place, and many interiors in Bedford Square and Russell Square<sup>3</sup>; the last-named is an outstanding example of the very worst form of destruction, and around the garden square windows and doors of old houses have been ignorantly ornamented with terra-cotta dressings. Finsbury Square and Regent Street are almost equally flagrant examples. Soho, Hanover, Finsbury, St. James's Golden, and Leicester Squares should also be mentioned. Others, like Fitzroy Square, King's Square, and the majority of those in the inner suburbs are so capable of being transformed from their present forlorn aspect into quiet and pleasant residential quarters. Even some of those in course of demolition and not too far advanced in this stage, could be reinstated in a manner reflecting the traditions of the original structures.

Public bodies and owners should be invited to give more attention to the preservation and remodelling of these buildings, and to use such power as they have to prevent the erection of factories in residential squares. Alterations should be considered with a view to the character, and if an entirely new scheme be contemplated for a square or circus it should be worked out in a manner of the streets running into the old square, the domestic buildings in these streets often surviving long after the square has degenerated into a medley of modern architecture. Proper control and architectural supervision are necessary, and although, on the whole, it is probably desirable that the powers of public bodies should be restricted to the regulation of the height of new buildings and to matters of hygiene in the event of owners consistently evading their responsibilities, public bodies should have the power to step in and compel them to undertake the work.

*Control, Maintenance, and Supervision.*

To a certain extent this appears to be the principle of the Torrens' Act, 1868, which provided that individual houses should be maintained in proper condition, and that if the owner failed in his duty he might be compelled to perform it. Cross' A

3. "Survey of London," vol. i., edited by C. R. Ashbee, M.A.



75, applied to the properties of several different owners, and contemplated dealing with whole areas where the houses were structurally defective.<sup>4</sup> In these Acts the words "proper condition" and "structurally defective" are not concerned with the question of architectural propriety. The L.C.C. have obtained authority from Parliament to purchase by agreement buildings and places of historic or architectural interest and to contribute towards their preservation, maintenance, and management. To a greater extent than is generally known the Council have taken advantage of this Act, and although the present writers are not favourably disposed towards the extension of the powers of the L.C.C., we must in justice place on record that the garden squares controlled by that body are generally better cared for than those controlled by private bodies. As a modest example we may cite Clarence Gardens off the Hampstead Road. On the occasion of our visit in the summer of last year (a day or two after a great storm which had played havoc with the trees in garden squares throughout London), these gardens, like those in private hands, were a pleasure to see, well kept and evidently a source of pride to the gardener in charge. Notwithstanding what has been accomplished by this body London is poorly provided for in the way of supervision of the maintenance of architectural proprieties. In Paris, supervision is exercised wherever the importance of the situation demands it. The buildings of many of the principal streets and squares are under a strict municipal control, to which all private owners must submit.<sup>5</sup>

#### *Corporate or Divided Control?*

The whole question of architectural control is beset with difficulties, and it is extremely doubtful whether such powers should be vested in a public body like the L.C.C. The solution of the problem as respects existing districts and buildings would probably be best dealt with by a divided control, the powers of the borough councils being limited to the upkeep of the streets, garden squares, terraces, and walled gardens, the upkeep of the houses and the control of the areas being the duty of the owners and, in the healthier districts, of the owners and tenants. In this connection Lincoln's Inn Fields furnishes an interesting object lesson. In the middle of the eighteenth century the owners of Cup Fields (now entirely merged in the modern square Lincoln's Inn Fields) made arrangements for the completion of its north and south sides. Anticipating the opposition that would be raised by the Society of Lincoln's Inn Fields to any indiscriminate building, they entered into negotiations with the Society. An agreement was concluded, and among other conditions it was settled that the new buildings should "bear all proportions in front, height, breadth, length, and beauty with the said Row, Portugal Row, or in a more firme or beautiful manner." Again, early in the eighteenth century a Bill was brought in for beautifying and preserving the area called Lincoln's Inn Great Fields. Nothing, however, came of it. At last the inhabitants and proprietors of houses in the Fields came to an agreement among themselves to take in hand the proper cleaning, laying out, and maintenance of the central portion, and in 1734 applied to Parliament for power to carry out their design.<sup>6</sup> It is to voluntary associations of owners and tenants, such as appear to have obtained in the early eighteenth century, working in co-operation with the borough councils, that we may have to look for the salvation of the districts laid out in the later years

of the eighteenth and early years of the nineteenth centuries. It is quite true that the tendency at the present time is to give public bodies larger powers, but there is also a growing body of opinion which views with some alarm and suspicion the increasing number of spheres in which public bodies exercise control in matters best left to voluntary and unofficial societies.

#### *Outward Expansion, Inner Declension.*

At the beginning of our article we pointed out that the development of the suburbs and the advent of the garden village were the causes which led to urban deterioration. In their encouragement of house building on the outskirts early social reformers overlooked the effects of this exodus from the more central districts. They failed to realise adequately that upon the growth of new suburbs and of increased travelling facilities there would follow a rapid decline in the value of urban house property. Nor do we seem to have profited by their mistake. In all the many new housing schemes prepared since the beginning of hostilities with Germany there does not appear to be one which has recognised that with the outward movement there must follow a corresponding decline in the inner areas. Expert town planners as a body are singularly reticent upon this point. Mr. Raymond Unwin simplifies the problem by ignoring it, and Mr. Aldridge, writing on the increasing migration to the garden suburb, says: "The community benefits in two ways, first by the rise in the standards of comfort and amenity to those who migrate, and second, in the setting free of accommodation to which poorer classes of workmen can migrate from areas which should be cleared. This last process may be one of several stages, but it is of primary importance in housing betterment."<sup>7</sup>

In this passage Mr. Aldridge does not make it clear how the community will benefit by the setting free of accommodation to which poorer classes of workmen can migrate from areas which should be cleared. The facts concerning the past history of the urban areas have led us to the opposite conclusion. Our own investigations, extending over a considerable period, point to the very obvious fact (to those who are familiar with the districts) that the houses in these areas have been set free to deteriorate and, incidentally, to house badly those who rent them. For a long time owners of this class of property have done as little as possible in the way of repair and adaptation, and, owing to the flight of their well-to-do tenants, have let to those who, for one reason or another, are compelled to be near their occupation. We can see no benefit to the community in the fact that in nearly all the inner suburbs of London there are thousands of these houses in process of decay. Is it surprising that there are more of them empty than can be found in a garden suburb? Could it be otherwise, failing their conversion and adaptation to domestic needs other than those for which they were originally planned?

#### *Housing after the War.*

There is little doubt that the question of housing accommodation will take a prominent place in after-the-war problems. It is of increasing importance, therefore, that public bodies and owners of urban property such as we have described should be alive to the necessity of making preparations in order to be ready to act on comprehensive lines. It is common knowledge at the present time that there is an enormous deficiency throughout the kingdom. Housing accommodation is required in town and country, both for the working-classes and the poorer of the professional classes. Houses and flats will be wanted also for disabled soldiers and sailors. "The

<sup>4</sup> 'The Housing Question in London,' 1855 to 1900," p. 5.

<sup>5</sup> 'Town Planning,' by Inigo Triggs, pp. 259-260.

<sup>6</sup> 'Survey of London,' vol. iii., St. Giles-in-the-Fields, Part I.

<sup>7</sup> "The Case for Town Planning," by Henry R. Aldridge, p. 352.



nation," says Mr. Sidney Webb, "will need to lay out a very large sum, possibly as much as a couple of hundred millions on housing."<sup>8</sup>

The Government already has in hand big housing schemes, and startling headlines in the daily Press announce that as many as a million houses are to be built at a cost of £250,000,000. Numbers of proposals are in the air. Lord Leverhulme, who created Port Sunlight, says municipalities must face the task of offering facilities for the erection of better cottage homes in suburban districts, and suggests that the rents, together with the cost of transport of the occupiers to and from their daily work, should be less than the rental demanded for inferior houses in congested districts. He is of opinion that municipalities should acquire suburban land in large quantities at reasonable prices, and offer it absolutely free for the immediate erection of cottages. Another proposal is to provide groups of flats in various parts of the country for disabled officers and their families.<sup>9</sup> There is also Mr. Stoll's scheme for flats for men who come back from the war in a state of utter helplessness. These are but a few of the undertakings projected throughout the country for new housing schemes, most of them to be carried out probably on the principle of the garden suburb.

As for some considerable time to come we shall probably be short of all kinds of building materials, the carrying out of these enormous operations, together with other equally pressing needs, will be a serious undertaking, calling for the most careful husbanding of materials. In view of this fact, it seems to us more than ever desirable that proposals for adaptation and conversion of existing domestic buildings, particularly those of the period we refer to, should receive careful consideration by town planners and responsible bodies, for the reason that they would afford a permanent, if only partial, solution of the town-housing problem, and a step towards perfectly adapting the environment to the well-being of the population.

8. Fabian Tract, No. 181: "When Peace Comes: The Way of Reconstruction," p. 10.

9. The Housing Association Scheme.

## THE PLATES.

### *The Alexander I. Arch, Moscow.*

THIS arch was erected in 1826, a year after the death of the monarch whom it commemorates.

It is a very fine example of the triumphal arch—magnificent in its proportions and vigorous in its details.

### *An Early Eighteenth-Century Porch.*

This attractive example of a domestic renaissance porch, now in the Victoria and Albert Museum, was removed from an old house in Great Ormond Street, London, said to have been built in 1707. It is of carved wood, with a pedimental canopy resting on Corinthian columns. Its charming "cobweb" fan-light will be noted.

### *Two Louis XVI. Commodes.*

French commodes are nearly always fitted with drawers. In the Louis XVI. period the top drawer sometimes coincided with the frieze; but the schemes of decoration usually adopted in their sub-division more frequently failed to fit in with the lines of the drawer-posts. Designs consisting of framing and panels afforded scope for more combinations than were obtainable by following the constructional features. Freedom from restraint in this direction enabled the most varied and lavish treatment to be adopted during the period it was in favour. Adaptable to any size, the commode could be employed with equal effect in the boudoir, drawing-room, or the largest apartment. Few pieces of furniture have

the same dignity of appearance or equal possibilities of decoration. Two very refined examples are shown in this issue.

### *Regent Street in the 'Forties.*

Describing this print by Boys, Charles Ollivier wrote: "Prominent in the foreground is the Hanover Chapel, a classical edifice of much beauty. It was built from designs of Mr. Cockerell. . . . Opposite Hanover Chapel is a thoroughfare leading into Argyle Street, wherein stands the house built for the town residence of the Duke of Argyle. At the Regent Street corner of the opening was formerly situated the Argyle Rooms—a rival to the Hanover Square Rooms, and, like them, devoted chiefly to musical entertainments. . . . Part of the quadrant seen in the view before us, with the spire of St. James's Church rising above the roofs." Regent Street still holds its high eminence as a fashionable shopping place, but its architectural interest is fast disappearing in a baneful era of rebuilding. The Hanover Chapel was demolished years ago, and, in its commercial pile, Regent House, now stands on its site; while up and down, on both sides, the stucco buildings of Nash's day are rapidly being superseded by more pretentious and up-to-date structures. The architectural charm of Regent Street is sadly mutilated. When the rebuilding is completed, ere long alas! it must be, we shall have not a gay, sunny street, which required a fresh coat of paint every spring, but a "thoroughfare" as dull and uninspiring as Victoria Street.

## CORRESPONDENCE.

"Cover" for Reinforced Concrete Construction.  
To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—A short time ago you were good enough to publish a letter of mine relating to a few points connected with reinforced concrete. Since then another, and, I think, a rather important, point has occurred to me, and perhaps you may think it worth publicity. It relates to the concrete, not the reinforcement. Water being the prime active chemical agent in the manufacture of concrete, every care must be taken to safeguard its proper course of action in its work on the compound—first, in regard to its quality; secondly, in quantity; and, thirdly (and perhaps most important of all), the nursing of the concrete during the period of chemical action in setting. The last consideration may have a good deal to do with cracks, surface, and otherwise, assuming that the cement has passed the requisite tests.

For the action on the water to have its full and correct chemical action on the materials, it seems must not be allowed to evaporate until full action has taken place. This must have an important effect in obtaining a sound surface and body to the concrete. Sun, wind, too high a temperature, and rain, should be kept off concrete in setting, as the first three cause too rapid evaporation, and the last causes over-saturation. It seems, then, that the way to obtain the best results in a concrete structure is to build under cover to keep off sun, wind, or rain. The temperature of the atmosphere should be noted even then, and, if above the mean, cloths kept moist should be hurried close up to the surface of the work.

The desired end might be accomplished by constructing boats under sheds and ordinary buildings under canvas, fastening sheets of canvas for the latter to the outside of the scaffolding and forming a tent roof across it. We know that damp sawdust used on flat surfaces, but are sufficient precautions taken with vertical surfaces and the rounded surfaces of ships?

Upper Warlingham.

EDWARD H. LEGGE.



MONUMENTS. XXXVIII.—THE ALEXANDER I. ARCH. MOSCOW.



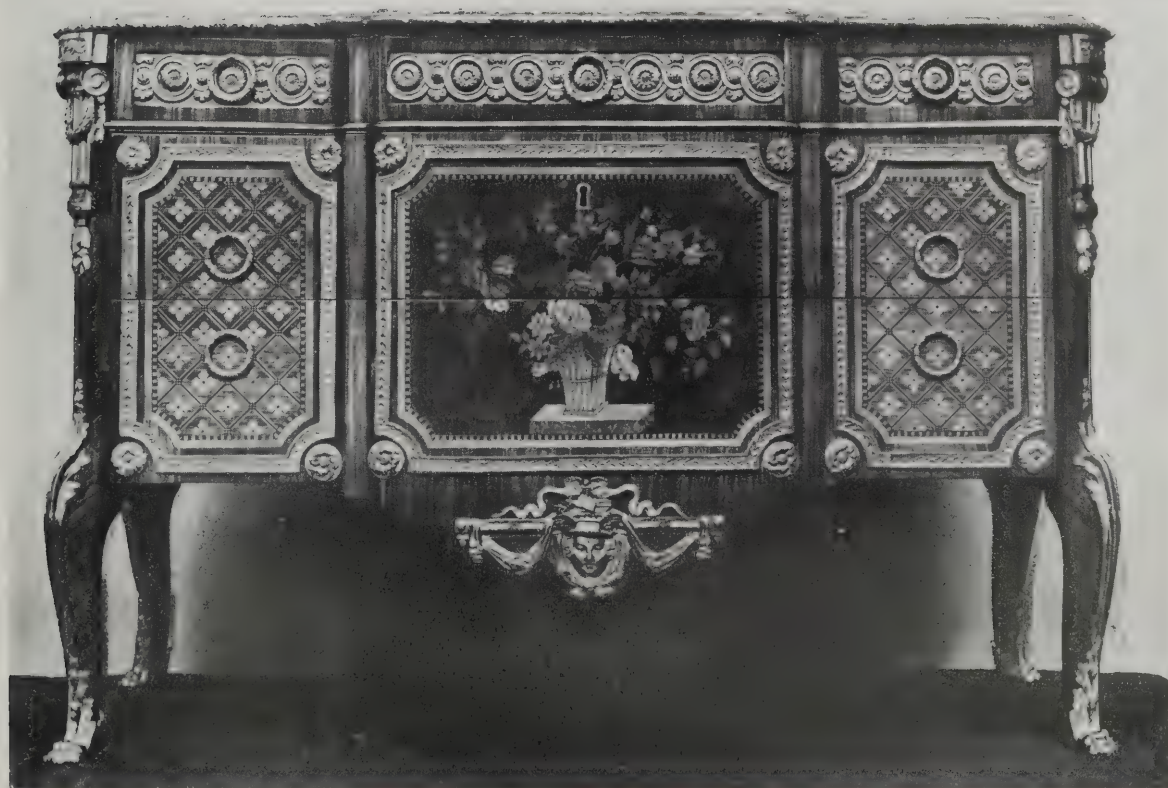
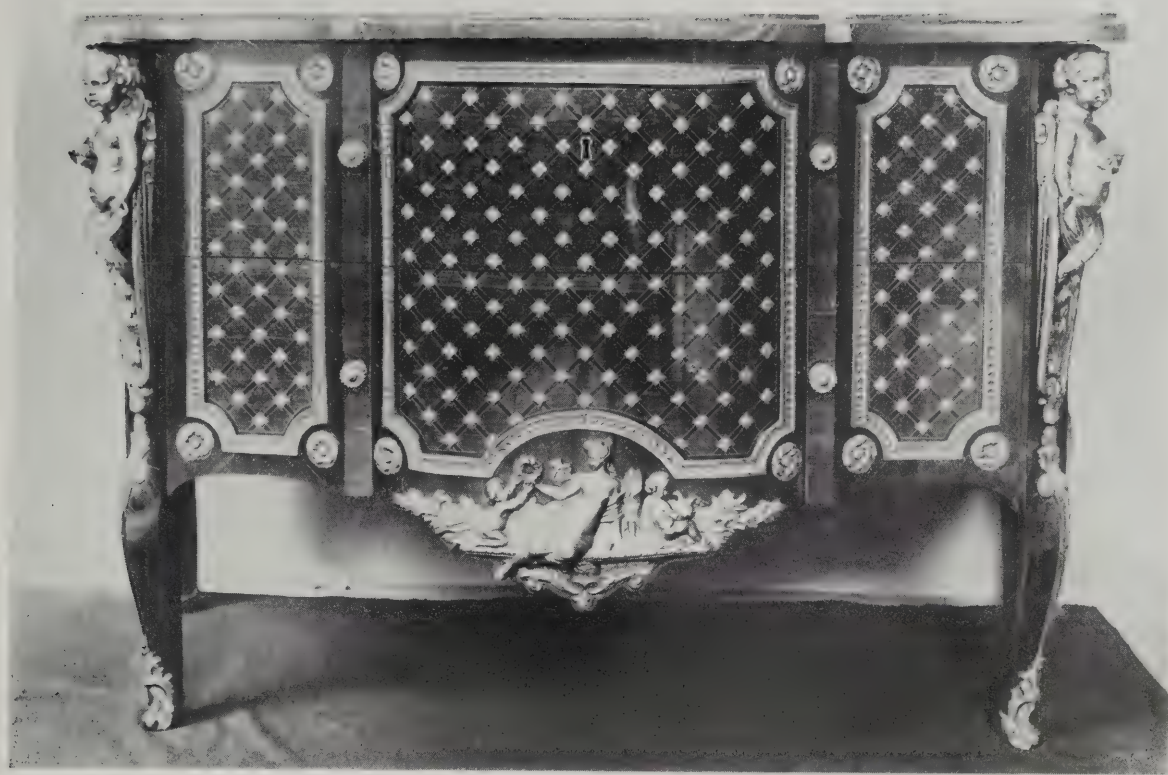




DOORS AND DOORWAYS. XXIV.—EARLY EIGHTEENTH-CENTURY PORCH FROM HOUSE IN  
GREAT ORMOND STREET, LONDON (NOW DEMOLISHED).  
(Reproduced by courtesy of the Director of the Victoria and Albert Museum.)







FURNITURE. VI.—TWO FRENCH COMMDES (LOUIS XVI. PERIOD).











ARCHITECTURAL DRAWINGS AND SKETCHES. XXVIII.—LONDON

(From the



TIES: REGENT STREET, LOOKING TOWARDS THE QUADRANT.  
(Boys.)







## WAR BUILDINGS SECTION.

### HOUSES FOR THE WORKING CLASSES.

A MEMORANDUM has just been issued by the Local Government Board for Scotland containing suggestions regarding the provision and planning of houses for the working classes. It will be remembered that, in their circular of March 18, 1918, the Board set forth the nature and extent of the financial assistance which the Government propose to give to local authorities who are prepared for the war to undertake the provision of houses for the working classes in accordance with schemes approved by the Board. In framing of housing schemes suitable to the needs of their areas will, it is stated, care be to be carefully considered by local authorities, and the primary object of this memorandum is to furnish information, suggestions, and plans which it is hoped will be of assistance to local authorities in their consideration of the various essential elements of a housing scheme.

The suggestions set forth in this memorandum are largely the outcome of the experience gained by the Board's staff during the past two or three years in connection with the erection, on behalf of the Admiralty and the Ministry of Munitions, of houses for Government employees or persons engaged in munition works, and the plans accompanying this memorandum illustrate the lay-out of some of the sites and the design of some of the houses erected by the Board. Four photographs of houses erected at Gourock by the Admiralty are also included. We reproduce two typical illustrations in this issue, and hope to deal more fully with the memorandum next week.

#### *Architectural Competition.*

In order to ensure the fullest measure of expert assistance being available to local authorities, the Board have arranged, in consultation with the Institute of Scottish Architects, to promote an architectural competition among architects.

Designs are invited for lay-out plans and for plans of various types of houses, and an approved panel of architects will be selected by competent assessors from which local authorities may appoint an architect to advise and assist them in the carrying out of their schemes.

It is hoped that the memorandum and plans may also be of use to architects intending to enter this competition, and that these plans may be regarded by them as designs upon which it is desirable that improvements may be effected.

#### *Selection of Site.*

The selection of a suitable site is of the greatest importance and should not be made without expert advice.

Consideration should be given to the following points:

(1) The healthiness and amenity of the site and its surroundings; (2) the nature of the subsoil; (3) the suitability of the site for building purposes so far as levels are concerned and the extent to which it is capable of economical development; (4) the means of access and railway facilities (which will have a considerable effect on the cost of operations); (5) the existence of any roads suitable as frontage for new houses; (6) the distance and travelling facilities to the shopping centre and works area; (7) the facilities for obtaining the necessary services of drainage, water supply, lighting, and scavenging; (8) the proximity in country areas of special districts for drainage and water supply, lighting and scavenging which are capable of being extended to include the proposed site; (9) the suitability in mineral areas of the site for buildings having regard to underground workings and possibilities of subsidence.

#### *Plans.*

The plan reproduced in this issue illustrates the lay-out of a scheme comprising 250 houses at Glengarnock, Ayrshire. The

ground is practically level throughout, and this fact has permitted of the plan being set out on regular and formal lines. The houses are built in pairs or groups of four to six houses, with an average density of thirteen houses per gross acre.

Sites have been set apart for the erection of public buildings if desired, and every endeavour has been made to obtain effective grouping and pleasing street vistas.

Attention is directed to the grouping of houses around quadrangles with access by a narrow road or footpath with grass margins on either side.

A number of type plans of houses are included with the memorandum, and from these we reproduce Plan No. 5 (Type A), which illustrates a group of four houses and shows probably the most economical arrangement of plan. Passages are reduced to a minimum, and there is an absence of waste space. The end houses have two bedrooms on the upper floor and the intermediate houses three bedrooms.

The bathroom is a separate apartment entered from the scullery. This arrangement has the effect of reducing to a minimum the length of piping required for the hot-water supply from the range in the living-room, but the arrangement otherwise is open to objection on the ground of convenience.

No provision has been shown on the plan for direct access to the back gardens of the intermediate houses. This may be considered necessary, and may be provided by means of pends through houses or by access paths. This type of plan is not suitable for use on north frontages.

The elevations are treated in a simple manner with brick base and rough-cast walls. The lowering of the wallhead level at the ends of the groups has a pleasing effect and tends to reduce the otherwise monotonous effect of the wallhead carried throughout at the same level.

Houses of this type, with slight modifications in the details of the plans and eleva-



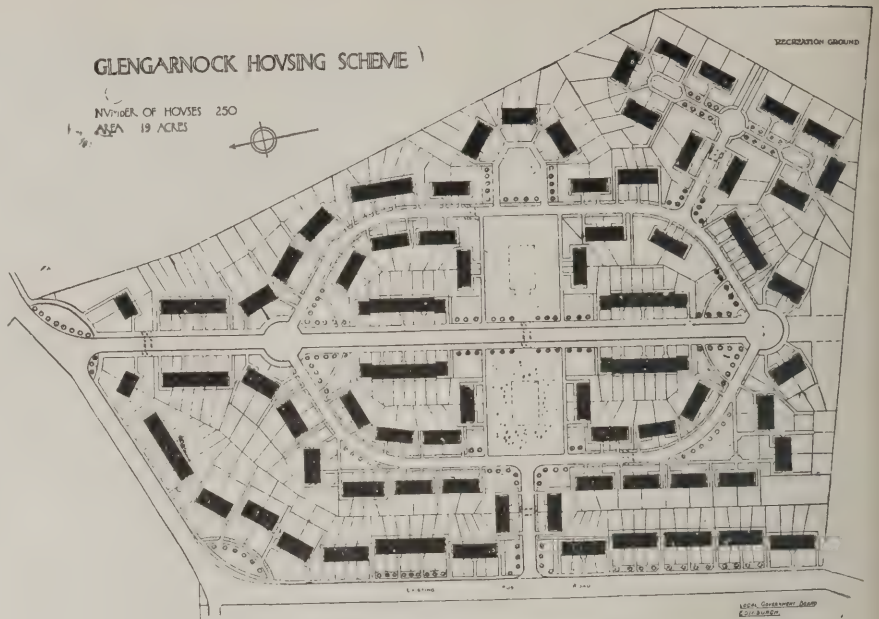
tions, have been erected at Glengarnock and Gourrock and at various sites in Lanarkshire.

General.

In the carrying out of the various schemes undertaken by the Board every endeavour has been made, while providing houses with suitable accommodation and convenience, to reduce the cost to the lowest possible sum consistent with sound methods of construction. The cost of building under war conditions has naturally been high. Sufficient labour has not been available and materials have been difficult to obtain.

It will be recognised therefore that the plans show what has been considered to be the most economical arrangement of plan and as indicating the minimum accommodation and sizes of apartments that should be provided. The storage and cupboard accommodation are, in the majority of the plans, hardly sufficient, and attention has been drawn to the lack of provision for storing such articles as perambulator, bicycle, mangle, etc. It will be noted that back additions are avoided in all plans, and that careful attention has been paid to the grouping of chimneys and of sanitary fittings.

The memorandum, which is signed by J. Walker Smith, M.Inst., C.E., F.S.I., Housing Commissioner, Local Government Board, Edinburgh, may be purchased through any bookseller or directly from His Majesty's Stationery Offices, price 1s. net. It is a valuable and instructive document which should be in the hands of all architects interested in the housing movement.



PLAN OF HOUSING SCHEME, GLENGARNOCK, AYRSHIRE.

N.K. RESTAURANT LIGHTING.

We publish on the two following pages some interesting views of the popular N.K. Restaurant, opened in New Bridge Street, Blackfriars, a few weeks ago by the Ministry of Food. The premises, lately those of Messrs. Spiers and Pond, have been attractively redecorated on lines ap-

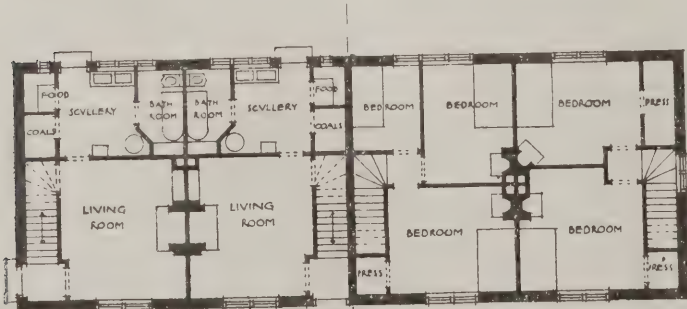
propriate to their new purpose, and at the same time equipped with a special lighting installation. The semi-indirect system has been adopted, and the illumination given is remarkably even and well diffused; with it there is no glare and only the softest shadows. Such an effect is particularly suitable for restaurant lighting, and obviously preferable to the crude and



FRONT ELEVATION

END ELEVATION

GROUP OF FOUR HOUSES  
TYPE A



GROUND FLOOR PLAN

UPPER FLOOR PLAN



CROSS SECTION



DESIGN FOR GROUP OF FOUR WORKING-CLASS HOUSES.

(From the L.G.B. [Scotland] Memorandum.)



marsh illumination met with in many London restaurants, where the lighting consists of a large number of exposed light sources immediately above the tables, with no attempt either to secure a scientific distribution of the light or the maximum value from the wattage absorbed. At New Bridge Street it was somewhat difficult to install the semi-indirect system, as the existing wiring put in when Messrs. Spiers and Pond occupied the building had to be re-installed. This wiring was unsuitable for semi-indirect lighting, as it was arranged for thirty-three small pendant lights. The difficulty was overcome by adopting a staggered system of lighting, utilising only nineteen of the available points. A very effective result was obtained by this method, as a glance at the accompanying illustrations will show. Each of the nineteen fittings, which are chain-suspended 10 ft. from the ceiling, carries a moulded "Equiluxo" glass bowl of artistic appearance, containing a 100-watt Osram Atmos" type lamp.

The illustrations of the interior are repro-

ductions of untouched photographs taken at night entirely by the illumination given by the system. Any glare that may exist with a lighting system usually is accentuated by the camera, but no trace of this can be seen in either illustration, even the smallest detail being brought out with remarkable clearness. The absence of glare is the more striking when it is remembered that gas-filled lamps have been used which have an intrinsic brilliancy approximately of 20,000-candle-power per sq. in. of filament area.

It may be thought that a scheme of this description is more extravagant in current consumption than with local lighting, but this is not the case in practice, for in place of a large number of small lamps of comparatively low candle-power, a small number of high-power units equipped with gas-filled lamps are employed. These lamps have an efficiency approximately double that of the standard vacuum type lamp.

By using such large and efficient units a semi-indirect scheme of lighting can be adopted without the current consumption

being higher than would be the case if a local lighting scheme were employed, and in favourable circumstances it is possible even to show a saving in current. The following figures bear out this contention. The restaurant proper covers an area approximately of 3,000 sq. ft. The area is illuminated by nineteen fittings, each containing a 100-watt lamp. A total consumption, therefore, at the rate of 1.9 kw. is involved, the illuminating intensity obtained being four foot candles at the table level. In relation to the area illuminated the consumption amounts only to 0.63 watts per sq. ft., which, having in mind the intensity of illumination obtained, is considerably below the average required for lighting restaurants generally, taking area for area. The lighting scheme was planned by the Illuminating Engineering Department of the General Electric Co., Ltd., Queen Victoria Street, E.C., who also supplied the fittings and lamps.

## WELSH HOUSING COMPETITION AWARDS.

The following awards have been made in connection with the architectural and town-planning competitions arranged by the Welsh Housing and Development Association under the auspices of the Welsh National Eisteddfod, 1918:—

### *Lay-out Plan of a Local Building Site.*

Prize of £5 5s. given by the Welsh Housing and Development Association awarded to Mr. T. Gibb, Wigfa, Springfields, Aberavon. Total number of competitors, seven. Adjudicator, Mr. Henry E. Stilgoe, M.Inst.C.E., City Engineer, Birmingham.

### *Cottages and Living-in Quarters for Welsh Agricultural Labourers.*

Class A.—Living-room, scullery, and three bedrooms. Prize of £50 given by the Right Hon. Sir Alfred Mond, Bart., M.P., awarded to Mr. J. Austin Lloyd, Bella Vista, Powfort, Annan, from amongst eighty-three competitors.

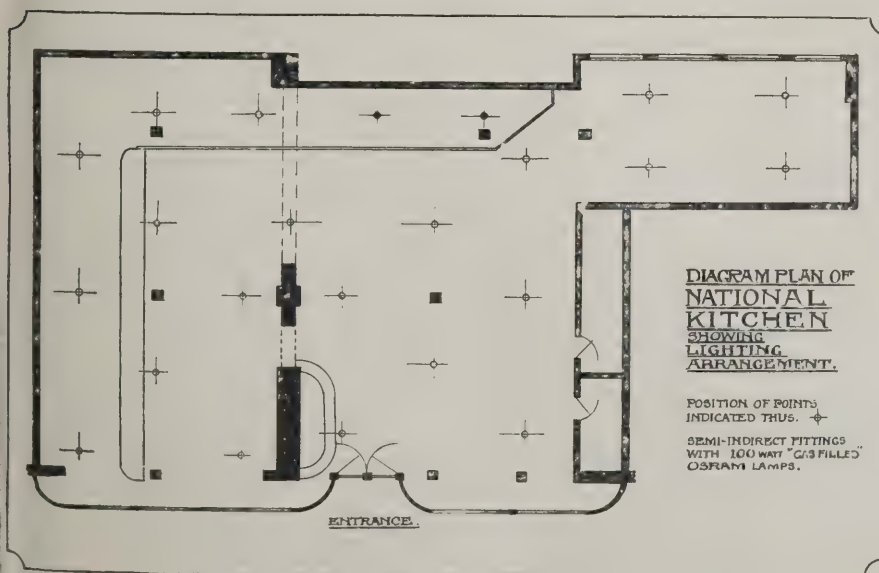
Class B.—Living-room, parlour, scullery, and three bedrooms. Prize of £50; given by Mr. Edward T. John, M.P., awarded to Mr. H. Heathman, 10, Station Road, Bristol, out of fifty-two competitors.

Class C.—Accommodation at the discretion of competitors, but with a minimum of three bedrooms, planned entirely or mainly on one floor. Prize of £50, given jointly by the Right Hon. Lord Boston and Sir Robert J. Thomas, Holyhead, divided equally between Mr. J. Austin Lloyd, Powfort, Annan, and Miss E. D. Blacker, 20, Victoria Square, Clifton. Number of competitors, thirty-six.

### *Cottages and Living-in Quarters for Unmarried Farm Labourers.*

Prize of £10, given by the Right Hon. Lady Boston, awarded to Messrs. Thomas and Morgan, Gelliwasted, Road, Pontypridd. A consolation prize of £5 5s., given by Messrs. J. Cook Rees and D. M. Jenkins, was awarded to Mr. Herbert L. North, B.A., F.R.I.B.A., Llanfairfechan, N. Wales. Number of competitors, twenty-five.

The adjudicators in the foregoing competitions were Professor Patrick Abercrombie, F.R.I.B.A., J. Cook Rees, Esq., M.S.A., President South Wales Institute of Architects; D. M. Jenkins, Esq., A.M.Inst.C.E., Chairman South Wales District Institution of Municipal and



THE N.K. RESTAURANT, NEW BRIDGE STREET, BLACKFRIARS, LONDON.





THE N.K. RESTAURANT, BLACKFRIARS.

(View taken by the light of fittings installed.)

County Engineers; D. Lleufer Thomas, Esq., M.A., J.P.; the Right Hon. Lady Boston.

The plans were exhibited at the Arts and Crafts Exhibition at Neath during the Eisteddfod week, and arrangements are being made to exhibit them in every county in the Principality. A selection of them will also be reproduced in book form.

## TRADE AND CRAFT.

### *The Concrete Age.*

In his review of the National Shipbuilding position in the House of Commons, Sir Eric Geddes paid a well-deserved tribute to the concrete system, which has solved the building difficulty in countless undertakings for the Government since the beginning of the war. "On the Wye," he said, in dealing with the national shipyards, "we are building houses of an admirable but most economical type. I am assured by the engineer-in-charge that the system of concrete blocks employed is actually cheaper to-day than woodwork or corrugated-iron huts." Concrete blocks and slabs, indeed, with our rapidly diminishing supplies of timber, bricks, and other materials, are coming to the front by leaps and bounds in every branch of structural war work, and must of necessity play a leading part in all schemes of reconstruction both at home and abroad. It is interesting to learn that the work referred to by Sir Eric Geddes is being carried out on the "Winget" system, the blocks and slabs of which are now being used for 80 to 90 per cent. of the present camps, hangars, and housing schemes, etc., as specified by the Admiralty, War Office, and other Government Departments of Great Britain and her Allies.

### *A New Fire-fighting Substance.*

It has been known for some years that the most practical method of extinguishing fierce conflagrations of petroleum or other

highly inflammable substances is smothering with carbonic acid gas. The difficulty, however, has been to find a suitable vehicle which will carry the gas without loss on to the burning surface. Various foam-producing substances such as glue and glucose solutions, soap, etc., have been tried for this purpose, but none has proved strong enough to hold the gas until it has smothered the fire.

German chemists came very near to finding a suitable envelope, but it falls to the credit of an English chemist, who, from a

certain root extract, has produced a heavy viscous fluid giving the strongest and toughest foam so far known. This fluid has been named by the manufacturer "Foamite" and has been adopted by leading oil well and refinery concerns in America and by the United States Government. Remarkable results have been obtained on oil and petrol fires where the "Foamite" system is installed, and many thousands of pounds worth of stock and property have been saved. The "Foamite" solution, holding carbonic acid gas, is pumped on to the fire, and immediately lays a durable blanket of tough bubbles over the fire surface, so that within comparatively few minutes the fiercest blaze is put out. This system is now being extended to small hand extinguishers for use in works and factories in the simplest manner. "Foamite" does not give off any poisonous fumes. It is gratifying to know that English capital largely interested in the company formed in America to work this business, and negotiations are now proceeding for the formation of a company in England. Meantime all inquiries should be addressed to MacAndrews and Forbes Ltd., 2, Broad Street Place, London E.C.2.

### *A Book of Figure Studies.*

In view of the revival in the study of art it is interesting to note that a work which is shortly to be published on studies of the human figure, which aims at affording a varied series of photographic representations of poses and attitudes for the reference of designers and artists. The work is the joint production of Mr. G. Montague Ellwood, the artist and designer, joint editor of "Drawing," and Mr. F. R. Y.bury, of the Architectural Association, who is responsible for the photographs. The book will be issued immediately by Messrs. B. T. Basford, Ltd., of 94, High Holborn, London, W.C.



THE N.K. RESTAURANT, BLACKFRIARS.

(View taken by the light of fittings installed.)



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

AUGUST 28, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1234.

## NATIONAL PAPER ECONOMY.

*Owing to the very necessary Government restrictions on paper supplies, all elements of waste must rigorously be excluded. Our readers, we are sure, will gladly assist in promoting this object, which is an item in national economy. They can co-operate with us effectually in either of two ways—(1) By placing a direct subscription for this Journal, or (2) by placing with a newsagent an order for its regular delivery.*

*The Government Paper Controller has strictly forbidden the return of unsold copies of newspapers and periodicals to the publishers. Newsagents are therefore now keenly interested in the elimination of the casual customer, and are morally compelled to obtain only those papers that have been previously ordered. This fresh development strongly emphasises the foregoing advice to place a direct subscription or to give a newsagent a standing order for regular delivery.*

WHEN Scottish noblemen sell their Highland estates, American millionaires buy them. It seems that in October next the Duke of Sutherland will offer at auction nearly two hundred and fifty thousand acres of his estates in Sutherlandshire. They lie mainly along the sea-coast to the borders of Caithness, and are obviously the happy hunting grounds of such as delight in shooting and hunting. When these lands "change hands," they are likely to change their character. But while there is no prospect of these estates being immediately sold upon, it is almost certain that the Duke's action will be soon imitated by other landed proprietors, who realise that the possession of vast acreages entails burdens and responsibilities that, already too much for single ownership, are likely to become increasingly onerous under after-war conditions. If this country is to become to the utmost degree independent and self-sustaining, it will not be possible to give up thousands of acres to mere sport—deer-stalking, bird-shooting, fox-hunting, and other idle pastimes. It is said in no puritanical spirit, but in the belief that in the near future to ride straight to hounds, or to be able to kill with both barrels, or to shine at the stival and ancient game, will not be regarded as the sole duty of man when he is not compelled to work for a living. Shooting and riding, the huge drive and the accurate tee, are no doubt admirable accomplishments. It is a pity that altered circumstances will not permit of their continuance for all time. But apparently they have had their day, and must be superseded by less wasteful—or, let us say, more directly profitable—means of physical training: roughing the fields, instead of riding or shooting; or, if that is not to the taste, would keep his lordship fit, and would free him from the reproach of doing nothing for his living; or, if that is not to the taste, would free him from the reproach that, in the strenuous times to come, he would be unendurable.

It would be a much happier as well as a much healthier world, if all in it were usefully employed. Sciences would be less atrophied; and men and women who have themselves "roughed it," and have personal experience of practical work, are not

only more at peace within themselves, but are less easily irritated, less hard to please, by others, whose hardships and difficulties they are better able to understand, and whose lâches they are better able to detect. Architects will be working for a saner, more knowledgeable, less capricious *clientèle*: persons whose wants and criticisms will be more firmly based in practicability and reason. There should then be so much less worry and friction that work should be a pleasure; and, if there is any truth in the gospel according to Morris, herein are the beginnings of a purer and serener art, because art is the offspring of joy in work. Incidentally, it was the Duke of Sutherland, now shedding his redundant acres, who made, a short time ago, a free gift of twelve thousand acres to the nation, for the benefit of discharged soldiers.

Then, after all, this is but a small island. Its capacity for food production is rather strictly limited. Miles of land that could be cultivated should not be wasted because a few unproductive gentlemen want it for a playground. And as we are not on "the illimitable veldt," the coming demand for sites for houses, schools, factories, will not be satisfactorily met without trenching considerably on large landed estates. It is pretty plain, therefore, that the Duke of Sutherland is the pioneer in a new movement for the conversion of great estates into small ones, and that the sub-division—if not in this instance, certainly in most of the numerous sales which it is sure to incite—must tend to the great increase of building. For while an estate comprising a quarter of a million acres may have on it one large house and a few shooting-boxes, multiplication of owners implies multiplication of buildings, diversity in their design, equipment, decoration, and altogether a larger distribution of opportunities, besides a more complete realisation of true land values—that is, of their productive values. On some of them—we are of course speaking generally, and without specific reference to the Duke of Sutherland's estates—there may be quarries, brick earths, or other forms of mineral wealth, hitherto unexploited lest his grace's or his lordship's noble demesne should be disfigured: a very worthy consideration, as long as the country could afford it, but now rendered obsolete by the turn of events and the rapid development of ideas—for the war has brought about ebullition where for years there had been only simmering. This idea of the repartition of lands has been simmering for centuries, and we should not be surprised to find that the action of the Duke of Sutherland had brought it to boiling point.

Since the two paragraphs immediately preceding this were written, there has been published a list of some thirty estates that are to be offered for sale in the autumn by a single firm of auctioneers. Including the Duke of Sutherland's estate, the lands to be offered represent a total of 345,000 acres, and are situated in many counties, north and south, east and west. Of course, hunting, shooting, and fishing estates come into the market regularly every autumn; but the number of entries this year is believed to be without parallel. They include Chilham Castle, which, a fine specimen of Jacobean architecture, is surrounded by a deep fosse enclosing about eight



acres, on which are the remains of a Late Norman octagonal keep of three storeys. It is said that the estate is the site of a Roman castrum that afterwards became a castle of the Saxon kings, and that Lucius, the legendary Brito-Roman king, lived in it. Boston House, near Brentford, which is also included in the list, was built in 1622 and enlarged in 1671, and contains some finely carved fireplaces and some plaster ceilings decorated in high relief. Messrs. Knight, Frank, and Rutley are the auctioneers for all the properties to which reference is here made.

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We mentioned last week the endeavour of the Cape Town Institute to secure a Chair of Architecture for the projected University of South Africa. We did not then recall, however, that, as a note in the "Daily Express" reminds us, the foundation of a great university for South Africa was one of the most cherished dreams of Cecil Rhodes and his henchman, Sir Starr Jameson. It has now been decided to dedicate as a memorial to Jameson the central hall of the university buildings to be erected at Groote Schuur. Rhodes and Jameson believed in universities as a means of promoting the Imperial Unity which, with both men, was a ruling passion. They thought, as our contemporary says, that nothing is more likely to kill racial animosities than the bringing together at the most impressionable period of their lives the young men of the two races in South Africa. It may be so; or it may be only that the wish was father to the thought. Are there not cliques and coteries in the universities? At some of the Scottish universities the cliques are dignified with the name of nations; and of old time, however it may be in the present day, these "nations" would oppose each other in fights compared with which the "rags" and the town-and-gown encounters were mild playfulness. But while it is true that a university is peculiarly subject to these sharp divisions and internal conflicts, and is no doubt all the better for them, since they symbolise only too faithfully the conflicting world of which the 'varsity is a microcosm, it is also true that here the young blood learns to give or take a thrashing in a gentlemanly way—a very valuable accomplishment, even when the "debate," as Conan Doyle's Sir Nigel called it, is merely oral. Only a barbaric people like the Germans would set up at a university so boobyish a cult as that of duelling with the object of carrying away a scar on the face as a visible sign that one had been there. Rhodes's attempt to imperialise Oxford and Cambridge has been, so far, eminently successful in promoting the objects with which he founded the scholarships, and is therefore of good augury for the intermingling of the British and Dutch elements at the Cape. *A fortiori*, it should be as good for young men destined for various professions as for those of different races to spend together the term-times of their early manhood; and so high an opinion have we of the broadening effect of a university career that we wish it were open to all young architects. Will not the R.I.B.A. take thought to open it for most?

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Any movement in this direction is welcome. It is welcome news, therefore, that the Cambridge University Board of Architecture has organised training classes for architects, craft students, builders, land agents, and those interested in the practical or historical sides of artistic training. These classes are for the benefit of disabled officers, and are directed by Professor E. S. Prior and Professor Beresford Pite. Every facility for study, elementary or advanced, is offered, the classrooms and laboratories of the university being thrown open to the students, for whom workshops for practice in building craft are available, as well as facilities for experimental

work in the physics relating to building materials for studying the science of concrete construction and for instruction in practical forestry. Whether there are any valid objections to flooding the professions with an over-supply of short-course men we will not make this an occasion for inquiry. Assuming that proper precautions have been taken to avert such a calamity, we are rather disposed to rejoice over this inauguration of a more extensive system of scientific training in the art, science, and practice of building. In a few nine-week sessions a man may acquire but little substantial knowledge of a subject that is wholly new to him, but at least he will have had his eyes opened; and if his training had begun previously, a short course at Cambridge with the run of the superb physics laboratory there would give him a new outlook, invest commonplaces with a hitherto unsuspected interest and significance, and arrange them in a more rational series, link them in a more logical sequence and relationship. The men, coming away from their short course with a lengthened vista, will surely spread the gospel of more scientific building, and reveal the magic of university touch. If the Cambridge adventure leads to this result, well and good; the R.I.B.A. should make haste to hitch on to it and help it forward, and should in any case keep a watchful eye on it.

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In the second instalment of an article on "Cottage of Our Dreams," in the current issue of "The Woman at Home," Mr. C. H. B. Quennell, F.R.I.B.A., advocates a hatch between the kitchen and the dining-room. It saves running round into the hall, and (Mr. Quennell does not mention this) obviates collisions with late arrivals. Thick soup or clear soup, it is revolting to one's sense of war-torn economy to find that it has been emptied into an under-bread-basket, so to speak. When Mr. Quennell advocates a hatch he means a hatch—"not just a shutter or opening in the wall, but a place as large as a good big cupboard." How big is that? It is no matter for hatch making is no more of an exact science than matchmaking; and anyone requesting exact measurements for either operation is in greater need of a passport for Colney Hatch. Reasonably sane persons would be content to act on Mr. Quennell's general description, and see how it would hatch out. He has utterly the shutter type, "having under it a ledge big enough to stand a cheese-plate on." He thereby deprives us of the possibility of much innocent sport.

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Mr. Quennell's ideal hatch would have doors on both sides, and shelves. For those fastidious persons who do not greatly relish mixed culinary exhalations, for whom a Jack-in-the-box or "Peep-bo-I-see-you" succession of noisy, sudden, and jerky appearances and evanishments of cook's ruddy and spiring face would be rather nerve-destroying, dyspepsia would supervene. Perhaps a sort of central hatch could be arranged. When cook opened the shutter yours would automatically close, and *versus*. Occasional tragedies such as the catching of a cook's nose in the apparatus would be a small price to pay for the perennial convenience. Or some contrivance on the revolving door principle might establish the desired disconnected-connection between kitchen and dining room. When at length we emerge from barbarism cooking will be done at the central station where the odours will either be compressed into steam-tablets or distilled into flavouring essences. All that the diner will have to do will be to press a button, when, by a system of electrified tellyphones, the dish indicated will immediately arrive on the table; no waiting of any kind. This is no mere phantasy; the thing has been done—on the stage

## HERE AND THERE.

In the shop windows there is an announcement that "To-night a dance will be held in the Monastery." I shall be sorry to miss it; for the last time in a monastery that I saw lacked some of the essentials of a genuine hop. It occurred in the diverting play of "La Poupée"; and the monastery, of course, an improvisation of paint and canvas very well done indeed; but when the sturdy Norman pillars began to wobble in the wind created the gyrations of the Abbot, or Father Superior, whatever he was called, who "danced high, and supposedly" to an irresistible tune, declaring "A real monk am I," there seemed some probability of bringing the house down physically. There is, I think, as much safety as incongruity in "holding" a dance at the monastery to-night. It is apparently strong enough building, although it was built, probably, in the fourteenth century; and it has seen many changes and withstood much vibration. It has been, in its time, a house of refuge for Huguenots, a barracks for soldiers, a theatre, a malt-house, a provision store, and wool warehouse, and barracks for the Salvation Army. It is now again the property of the Church, and serves as a sort of parochial maid-all-work.

I refer to the Monastery in Rye. It is, alas! but a fragment—probably the chapel—of the ancient foundation of the "Friars Heremites of St. Augustine," but it retains a certain rugged nobility of character, which is the more impressive for its vicissitudes—as if the part were greater than the whole. It is of stately height—so tall that some utilitarian and conceived the brilliant idea of dividing it with a floor. Brilliant is the word, for a paradox is solved; and a paradox is always brilliant, is it not?—by dividing a building you double it. But the one end facing the street has lost much of its original dignity, someone—was it the maltster, or son of Thespis?—having provided it with a smooth red-brick shirt-front, which may possibly frighten the dancers, but would horrify the Society for the Protection of Ancient Buildings. It protects the building—there is no manner of doubt about that. Hence the felicity of the remark that "this building is in a wonderful state of preservation." He had said "fearful and wonderful" he would have made his sentence much less just or much more hackneyed.

But down here they do the most extraordinarily odd things. This was once a walled town, and had three gates—and one bastion—"the Landgate, the Strandgate, and the Postern-gate, at the foot of Conduit Lane." Only the Landgate remains. "It is in an excellent state of preservation, owing to the efforts of the Ancient Buildings Preservation Committee and the late Mr. Hessel Tiltman, F.R.I.B.A., an old Rye man, who personally supervised the work of renovating this and the old Ypres Castle, thus helping to rescue it from decay." Now for an oddity or so, of which I cannot for a moment believe that Mr. Tiltman was guilty. In this fourteenth-century gate, which is matchless save for the fine West Gate of Canterbury, there has been stuck a clock. At the right-hand side of the gateway they have constructed what we call euphemistically a lavatory, though it is really nothing of the kind. What artless simplicity! From such fastidious delicacy of mind, and exquisitely refined taste, what sensitive sympathy with architectural aims, may we not justly expect. A similar sense of fitness led the burgesses to clap their rather mean town hall (1742)—a com-

pendium of all the vices of eighteenth-century building—close against the fine Norman church, "the cathedral of East Sussex." It is a toss-up whether the action was meaner than the town hall. One is not surprised to read that in 1811 a barrel organ was in use in the church.

But in an Ancient Town, of which for a long time the staple industry was smuggling, one must not complain of incongruities. It is natural that all periods should be summarised in the town as well as in the church. Georgian jostles Mediæval or leavens Elizabethan. Genuine half-timber work is mocked and mimicked by lath and plaster sham showing garden-suburb excess of prettiness. Rich red tiles, on roofs of many shapes, are robbed of much of their effect by the intrusion of many shapes and less complex roofs covered with peculiarly dingy grey slates. Nor, in an Ancient Town, should one be surprised that the buildings are huddled together like sheep attacked by a dog, or that the main streets are very narrow. Here, where there are miles and miles of marsh-land, reaching in two directions beyond the range of your best field-glasses, the need for economy in land does not become obvious until you remember that within the walls crowding was inevitable. And nearly always we have, as at Rye, "a city set on an hill" of limited area. Circumvallation (oh, most luxuriant polysyllable!) was the true cause of even the tortuous and constricted streets of London Town. When the walls are demolished, the tradition remains operative, because the land laws impose on us the necessity of maintaining the original boundaries; except where the local authority has the courage or the cruelty to step in and clip off an awkward corner, or set back a frontage-line, or pierce through a blind alley. It is rather pathetically amusing to reflect that, in seeking powers for such acts of tidying-up, it is always necessary to urge some deadly utilitarian plea—prevention of epidemics or of crime, saving of time in transit, increase in value of property consequent on demolition of property that stifled it, and so forth. Never is the argument from amenity brought forward—except, perhaps, as a sort of make-weight. I remember that the stock argument in use by the London County Council in justification of its disallowance of sack-bottomed streets is that there must be a thoroughway for the brigade's fire-engines. It is a powerful reason; but is there not something rather ridiculous in this perpetual cracking of monkey-nuts with a Nasmyth hammer?

This same utilitarian spirit accounts for the clock in the grand old gate. I remember to have seen something rather similar over a gate in Chester, where, however, if I remember rightly, the offence is committed with greater pomp and circumstance—I mean that the clock is more conspicuous than the clock here at Rye, where it is not a fantastic excrescence, but a modest and comely dial; thrust into a hole left by the Anglo-Normans for flinging slops into the moat or molten lead on the heads of the enemy: Rye being, in those primitive days when men made war on each other, esteemed as "the Gateway of England": which, or something like it, is the title of what I am informed is a vastly entertaining volume by Mr. A. G. Bradley. I have as yet had no opportunity of consulting it. I had intended to call that clock an anachronism; but you perceive my difficulty—the clock being an excellent timekeeper.

DIAGENES.



## RISING PRICES.

BY C. H. B. QUENNELL, F.R.I.B.A.

ONE of the greatest problems with which the country is at the moment confronted is to be found in the great increase in prices. It is a matter of the greatest moment to the building, as all other trades; its influence can be traced as the source of all our troubles. The working man is fully alive to the fact that a rise in wages is automatically followed by an increase in the prices of commodities, so that he remains where he was before, the only result being that the standard of living of all the other classes who cannot obtain advances is lowered, and discontent is bred. The circle is vicious; the see-saw inebriated.

The writer was discussing the matter some weeks ago with one of the principal architects in a Government Department largely concerned with building, and the impression resulting was that those in charge are absolutely bewildered at the cost of building and its effect on schemes in hand.

Another actual case can be instanced. It was necessary, and held to be of national importance, that reparation work should be carried out at the present time to a large building in London. Two parties were concerned in the case; one had to find the money, and the other do the work. Quantities were prepared, and the surveyors to the interested parties had a meeting. The quantities were approved as fairly representing the amount of work to be done. Surveyor No. 1 asked No. 2 his idea of the cost, and was told £8,000, but No. 1 could not agree this, and said, "No. I agree your quantities, but I have been into the matter carefully, and I cannot see how the work can possibly cost more than £6,000; what I propose is this, that we should go out to tender, only I must ask you to allow me to nominate three builders myself." This was so eminently fair that it was at once agreed to, and a very representative set of builders asked to tender. They did—with the result that the lowest tender received, about a month ago, was £13,000.

When two of the ablest surveyors in London are so far out in their estimates of cost it goes without saying that we have arrived at a critical time. What it amounts to is this, that, unless we can bring a new philosophy to bear on building, all past experience is useless, and schemes will in consequence be suspended, because of the impossibility of judging the financial responsibility attached to them.

The Government Housing Scheme is attractive when considered from the point of view of improving the amenities of existence for the 300,000 or 500,000 families who are to inhabit that number of houses, or whatever other number is considered essential. But if it is not known whether the houses are to cost £150 or £650 each the scheme is ruinous. The State is to bear the burden of the deficit caused by the difference between the real and inflated value, but any such proceeding would only tend to aggravate the evil, and by raising prices in other directions other portions of the community would suffer. As one set of people go up in the world another will go down. The cause for the rise in prices is very easily discovered in the scarcity which has come about by the diversion of productive labour to war work, and this cannot be remedied until there is a more general appreciation of what the depreciation of the currency amounts to. We still have continual appeals to put money into War Loans, as if money was the only thing which counted, and the popular assumption is that the war is being fought by means of Treasury notes. The supreme factor that money is only a medium of exchange is lost sight of, and the man in

the street will not realise that it is the common which counts. In our schooldays attempts were made to dent into us the fact that Capital is not money much as that which man can wrest from Nature the labour of his head and hands, and we all realised as hard to convince of this as the men of the fifteenth century. Henry IV. had a famous idea for making money, when in 1411 he made 360 pennies from the lb. tower of silver and fifty nobles from the lb. of gold, instead of 300 and forty-five as before. It was very soon found that to make money is not necessarily to create value; but we must not laugh at "pendicular" finance, because it was only so recently as 1915 that we raised a loan in America to attempt to remedy the exchange. The Americans were beginning to say, we don't want money, but goods, and we cannot have the latter you must accept less for the former. So we borrowed money over there, and put them with it, and again very little good was done and very little can be—Jews' tricks do not make value.

The figures given of the set of tenders recently received are very interesting. On the building owned by the surveyor estimated the cost at £8,000, and doing so doubtless left some margin for bargaining the surveyor to the party who was to pay put forth £6,000, and probably under-estimated with the standard in view. So that round about £6,500 would have been a fair pre-war price, or exactly half the amount of the lowest tender received of £13,000. The price of sterling, equalling at present a pre-war value about 10s., bears out these prices. We must also in mind that should the war last much longer the value of the pound will still further decline. In times of the greatest stress money ceases to have value at all, and one reverts to primitive barter.

In the "Daily Telegraph" of August 16, 1918, was published a letter addressed to Mr. and Mrs. Bridger, of Swanscombe, Kent, by their Sergeant T. B. N. Bridger. He had been for two and a half years a prisoner of war in Germany, and is now fortunate enough to be an exchanged prisoner in Holland. Speaking German fluently, the sergeant had been sent all over Germany in charge of war parties, and so had the opportunity to note conditions in that country. Here is an illuminating passage on the value of money there now.

"I knew a tailor in Bremen who had a very big business and possessed lots of money, but could do nothing with it, so he went to a farmer friend in Oldenburg and contracted to make for him two winter suits and one winter overcoat in exchange for one large ham, 25 lb. of potatoes, and twenty eggs. And as one pair of very ordinary ready-made trousers costs at the lowest 45s. per pair, you can guess how hard-pressed they both were, for two of them to be willing to run the risk of discovery, for of course, it was an illegal transaction, and would have been very heavily punished if found out."

There could not possibly be a better illustration of this of what constitutes value. As we leave off producing foodstuffs and the useful commodities, scarcity adds to cost, until in the end you will exchange them for other articles of real value.

And as to the bearing of all this on the building trade, we cannot expect to reduce costs until we are able to start producing, though very much could be done even in a state of war by getting rid of parasitic institutions, the elimination of waste, and by so that all possible steps are taken in preparation for the raw materials we shall need. And we cannot afford to neglect the social and political side of the question.



it is here that we may expect to find trouble; and when we hear of the necessity of increasing production pertinent inquiry follows as to who shall benefit.

A very large section of the community thinks that we are to return to the halcyon days of before the war. A semblance of control is to be removed, and the scramble, which bred all the trouble, is to be allowed; the builders are especially anxious that this should happen; their heads are in the sand, and all that can be seen of them are ungainly hinterlands. Even he who runs may read, that all individualism is dead, and combination will be the new rule. The war has not been fought for the ground landlord, the cosmopolitan Jew, but for Right against Might. When Prussia instituted universal service she opened the way as well to Trades Unionism; the workers combined, at first in small numbers, until now the effect of the Whitley Councils will be that all the masters, and all the masters, will be in their respective unions.

The principle of Conscription, then, has reached industry; all must serve. If in the end each trade manages its own affairs it should be an advantage, but our will never again be ordered about; it is inevitable that it must be admitted to the management as a whole. Only architects will be left out in the cold. Another pregnant factor has been the cause with which Lord Rhondda's name will always be associated. Without knowing very much of his career, it is apparent in pre-war days, that much of his time and great ability was spent in conflict with Labour, fighting their progressive tendencies. The paradox is that in the end Lord Rhondda should have rendered his greatest service and laid down his life to show that even in times of stress, when equity prevails, there is enough to go round if commodities are fairly rationed; again, this will not be blown away on Labour. We may also expect that the principle will be extended to raw materials. The States will be forced to pool their resources in this direction, as the only alternative to a scramble, and, if accepted, it will follow that the various States, in all probability, become dealers in raw materials, working in consultation with the various Trades Councils.

The old individualistic methods tended to greed and unfairness; rationing is equitable, and anything which is fair and decent will carry weight. The advances of the world are generally caused by fairness, and vested interests demanding more than their share which is legitimately theirs.

So, though in the old days we did not bother much about affairs outside our own trade, we have to do so now, and realise that all sorts of conditions like land, and the price of eggs and bacon, have their intimate relation to our work.

Again, in the days of our youth we were reminded that the land and the labour put into it is the source of wealth. There is desperate need that we produce wealth, yet we allow England to be owned by a comparatively limited number of individuals. We need coal at the moment, and coal is actually bits of England; without it we cannot start producing, and, in fact, we find perhaps a few hundred people owning the land, and saying whether it is raised or not. Think of England as a large industrial concern, all of us shareholders; the company has just had a public meeting, and the shareholders are walking round the business premises, and find the power house is in the possession of squatters, who say they must be consulted before anything can be done. It would be held to be an extraordinarily illogical position, and the squatters would very soon be turned into stokers willy nilly; it is an exact parallel to the position the country presents itself in to-day. The land, the coal, all the sources of wealth, are in the hands of the few, and

though the connection may seem remote, in actuality it is not so; all industry is retarded by these feudal survivals. We are an illogical people, but stern necessity this time will be the driving force towards a better state of affairs; you cannot eat the bun and continue to possess it; you cannot have pheasants and peasants; you cannot produce wealth if all access to the means of so doing is cut off.

Quoting again from the "Daily Telegraph" of August 10, 1918, there is an interesting cutting from an American paper, which shows the clearer sight of the position open to the onlooker. "In the United States there is a disposition to regard Lord Lansdowne's efforts to produce peace as efforts made by 'English Junkerdom,' which are only less acceptable to modern democracies than those of German Junkerdom."

So there is a very critical spirit abroad, and all institutions are being tested. The spirit of Force was invoked by Prussianism, and by the wilful perversion of a whole people turned into wrong channels; there was never any doubt that in the end Right would conquer in the war, and the same thing will happen with this other war, the beginnings of which we can now see. After having put our enemy's house in order there will remain our own spring cleaning. It is not right or fair that very large sections of our population should be deprived of those natural advantages which are man's common heritage, and it is inevitable that in the end these defects will be remedied. To doubt it would render life not worth living.

Our national conservatism makes us approach the struggles of Labour with a critical spirit, and the middle-class man in flunkey fashion appears to sympathise with a duke who sues successfully a builder for ground rent which he cannot earn, and condemn a workman struggling for an advance of wages; yet the middle-class man and the workman have far more in common, and their cause is one.

Just as the world has been threatened by a whole people subverted to wrong, it will only progress by whole peoples linked together to see that justice holds the scales equally at home as well as abroad. We must expect high prices to remain so long as we prevent producers from producing and maintain instead an army of dukes, shopkeepers, middlemen, and commission agents.

[We have to apologise to Mr. Quennell for an editorial interpolation in his last article (August 7) to the effect that Mr. William Willett ultimately became an M.P.—added on the presumptive evidence of the Daylight Saving Act. Mr. Willett was not a member of the Commons, the Bill of which he was the direct inspiration having been introduced into Parliament by a friendly M.P.—EDS. A. AND B.J.]

## CORRESPONDENCE.

*"Towards a Transformed London."*

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—We shall be glad if you will afford us an opportunity to supplement our recent articles on the above subject with an extract from "Life and Labour in London," by Mr. Charles Booth.

Mr. Booth's investigations extended over a period of seventeen years, so that anything written by him on the adaptation of existing houses in urban London must carry considerable weight. At the time of writing our articles we had not seen his chapter on London "Housing."

We approached the subject from the architect's point of view; Mr. Booth approached it chiefly from the social standpoint; but in both cases much the same conclusions are reached. In classifying undesirable housing conditions he refers particularly to those



houses occupied "by a different class to that for which they were designed. . . . For these houses, a well-thought-out scheme of adaptation is essential; moreover, the scheme ought to be of general application, as suited to the needs of the neighbourhood. What can be wisely and profitably done where there happens to be only one owner, ought to be equally possible where there are many; and it is only by successful alteration, so that the houses may be made into healthy and convenient houses for whatever class of occupant may be in view, that the evils of non-adaptation or mal-adaptation can be obviated. Otherwise a process of deterioration sets in to which no bounds can be put. Large houses fall into working-class hands, and are let and sub-let, and the street loses caste; or it may be that the houses, without any proper adaptation, are let direct in floors; a fatal plan, a responsible chief tenant being requisite."

G. LL. MORRIS.

H. W. PARNACOTT.

### "THE CITY OF THE SPRINGS."

UNDER the above heading a correspondent of "The Times" contributes to that paper a delightful article on Bath—an article that creates within the tired Londoner during these breathless August days an unutterable longing for the placid eighteenth-century repose of Somerset's sleepy town. An ideal beauty flowering out of natural abundance—this, says the writer, if you can find it, is a true solace for fatigue. There is a city in the West which pours these riches into your weary soul; and perhaps there is only one which does it just in this fashion. Lord Rosebery said once—we quote him because he is the best of judges: "There is no other place in the world that I know of where you can walk along a street and be quite happy simply observing the architecture of that street, but that is the case in Bath." Bath is our city then, only we are not thinking of it as a Bethesda for aching joints or muscles, but as a living work of art, and also a fountain of the art of living. The men who made it were generous and sage. They rose above the obvious; they saw that if you want to cure the body you must make noble pleasure-houses for the mind. What they did was not only brilliant, but—a far harder feat for Englishmen—it was consecutive. You have the feeling that a human effort reached out here clean and free, and hit the mark, not once, but every time. Let us lift the impersonal veil from those great men who made so much of Bath, the two John Woods; it is a monstrous sign of our indifference to beauty that not one person in ten thousand ever hears their names until he finds them in a Bath guide-book. When John Wood went there in the early eighteenth century he seems to have had the liveliest vision of the old Roman city clustered round its hot springs. He and his son went back to antique types, but they breathed a vivacity into them which the Romans hardly knew.

This is the surprising magic of their work. You might suppose, if you heard of a great watering-place planned in the mid-eighteenth century, and built from end to end in stone, that the thought of it would lie heavy on your pillow at nights, like another Versailles. It might be perfect, but it would be limited; if it were very stately it would certainly be cold. So many of the great houses of that time seem to express nothing beyond the spirit of possession; they grip the soil relentlessly, and suggest boring, exclusive pleasures. But when you close your eyes in Bath—perhaps a middle-aged Englishman may be excused this rhapsody, as the great majority of his countrymen are still as ignorant as he was until the other day—you can call up a series of fine, clear-cut forms, and they will be images of rhythm and animation even

more than of repose. Say what you will, there is peculiar spell about these curves of stone, when an artist makes them. They are at rest, but with rippling movement; they put no question, but hold their secret themselves. A secret of pure æsthetic no doubt. But if you press—as people always do for an answer in other terms, and ask how Bath manages to be so complete without being narrow, the simplest answer is probably the best—because it is so. There is a real idea of "joy in widest commonalty spread" behind these converging forms. Circuses, crescents, are uniting. Life is a conversation you feel, as you do nowhere else save in Rome or Venice, that large numbers of agreeable people have settled here to enjoy each other's company. Perhaps that is why there seems no yawning difference of tone between the dwellings of the rich and the dwellings of the poor. As likely as not, one of the bits of your most treasure in memory will be some corner in "slum."

Then there is nature, of course. Not insidious creeping up, not demanding hard conquest by the mind; no, it is just a happy marriage. These steep hillsides were made to display architectural form. You can see it in the way the emphatic arc of Roy Crescent melts at either end into park and meadow; you accept even the haystack by the cobbles as a serious touch. Then there are the gardens. Municipal gardens are generally a terror; here they are an honour to modern benefactors and city fathers. The trees of Bath are "like dark stone statuary"; second only to the architecture of the streets. As you lounge in a long chair, a band in the distance, your eye will be caught by some brilliant stranger, an arbutus with its twisted red stem, or a flowering catalpa; or by a cunning perspective of great urban trees, plane and sycamore, which grow here to massive grandeur. And sometimes, if you fetch your glass of the "waters" in the morning from an open colonnade, the strains of the orchestra, you will have a strange illusion; you could imagine yourself at Baden Baden or Homburg. Blessed reaction! You will not have to trudge that everlasting walk under the airless pin this evening. Instead, you can mount the sloping bright slope in Milsom Street, tracking, with Thackeray, the formidable ghost of Chatham; or you can wait, by the dark palatial house in Laura Place for his son's ghost, stricken by Austerlitz, but still gripping power. Or else, as this is a holiday, will you not leave the State behind and follow those other spirits—and their children—Jane Austen, Landor, and Dickens?

### THE PLATES.

#### *The Central Railway Station, Sydney.*

THIS great terminal station is now in course of erection from designs by the Department of Public Works. Further particulars will be given next week.

#### *An Elizabethan "Court" Cabinet.*

Dated 1603, this piece of furniture was produced about the close of Elizabeth's reign. It is distinctly representative of the quaint style of work then in vogue, showing the first early traces of Italian influence.

#### *Panel of an Oak Door.*

This panel is carved in low relief with a cartouche outlined by interlacing bands and floral ornaments above and below. (French: middle sixteenth-century period.)

#### *"Overseas" Hospital Details.*

American "overseas" hospitals are being erected in large numbers both in England and France. This plate shows structural details of a typical roof truss.



CURRENT ARCHITECTURE (SERIES V.). XLV.—THE CENTRAL RAILWAY STATION, SYDNEY.







FURNITURE. VII.—AN ELIZABETHAN "COURT" CABINET.







DETAILS OF CRAFTSMANSHIP (SERIES III.). XXXVI.—PANEL OF AN OAK DOOR (FRENCH: MIDDLE SIXTEENTH-CENTURY PERIOD).

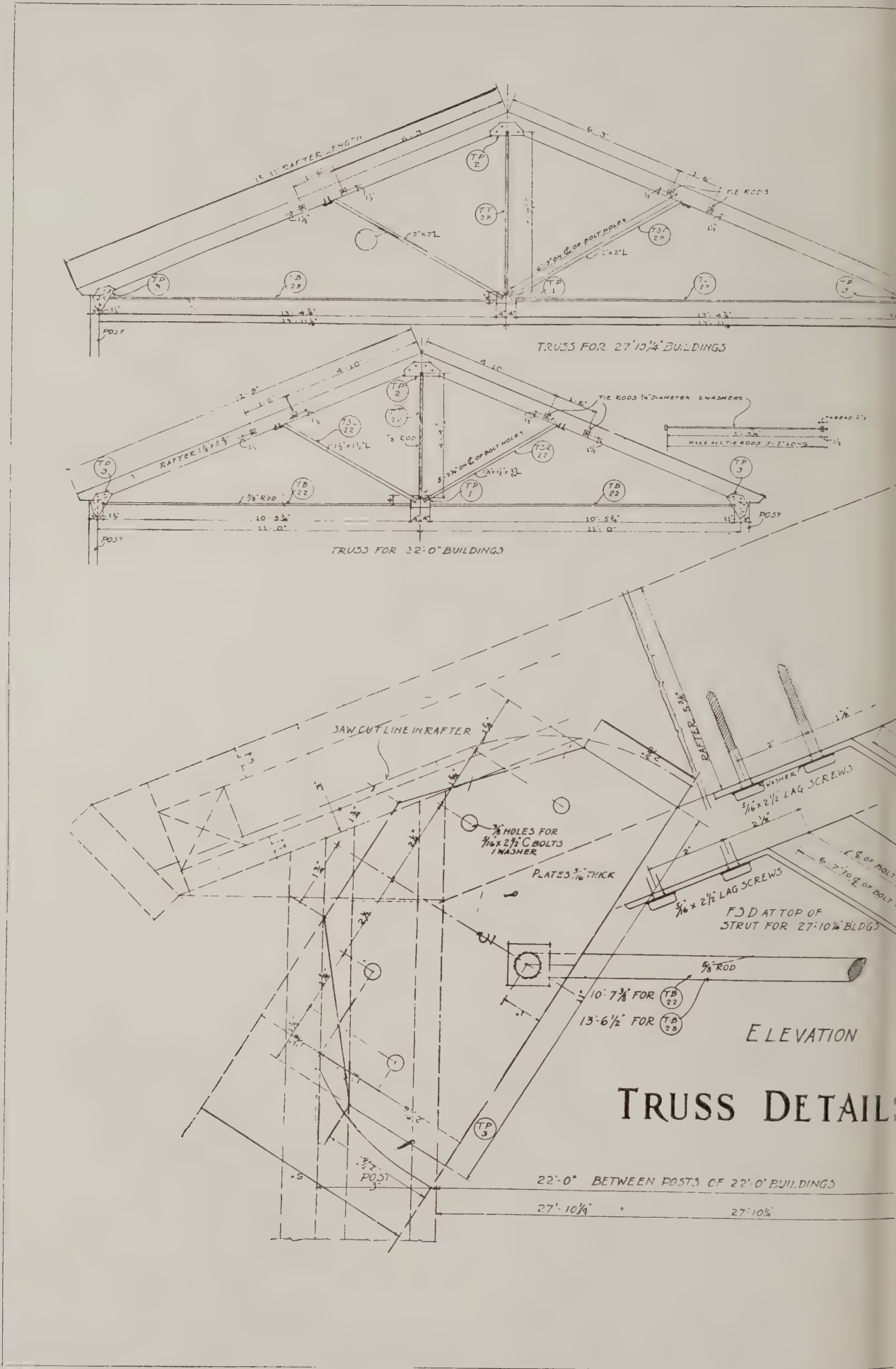
*(Reproduced by courtesy of the Director of the Victoria and Albert Museum.)*

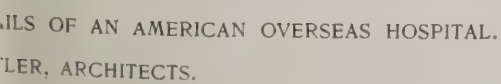


















## WAR BUILDINGS SECTION

### HOUSES FOR THE WORKING CLASSES.

In our last issue we referred briefly to the valuable Memorandum on the Provision of Houses for the Working Classes after the War," just issued by the Local Government Board of Scotland. We now publish some extensive extracts from the text, together with model plans and designs, which, it is suggested, may be of use to architects taking part in the architectural competition that has been promoted, particulars of which were given last week. In any case, they are to be regarded as models capable of improvement.

#### *Housing Enquiries in Progress.*

It is stated that the Board have appointed a Women's Committee to report and advise on the planning and arrangement of houses from the housewife's standpoint. Local authorities will also, no doubt, be aware that committees are at present dealing with various aspects of the housing problem. One committee is enquiring into the question of building construction with a view to devising methods of economy and despatch in the erection of such buildings. A sub-committee of the Ministry of Reconstruction is devoting its attention to the probable demand for building materials which will arise after the war and the extent of the available supply of such materials. This committee will also consider the best means of overcoming difficulties in increasing the supply of materials. These committees will deal with both Scottish and English conditions.

#### *Lay-Out of Site.*

A site having been selected that is regarded as suitable, it is desirable, unless the area is comparatively flat, that it should be carefully contoured. The lay-out of any site that is not practically level and the disposition of the houses on the site should largely be determined by the contours of the ground. By careful use of the natural configuration, a great deal

of expense in underbuilding, cutting, and filling can be avoided. Existing natural amenities, such as trees and hedges, should as far as possible be preserved.

It is desirable that consideration should be given not only to the lay-out of the particular area proposed to be developed in the first instance, but also to the manner in which the adjoining areas should be laid out. For this reason a larger area than that to be developed immediately should be contoured and the general lines of development for the whole area determined.

In this connection local authorities will be well advised to consider the advisability of obtaining an option for the purchase of areas contiguous to the selected site.

The planning of the site and the disposition of the houses thereon should receive the utmost consideration, as it will generally be recognised that the success of the scheme will depend, not so much upon the design of each particular house, as upon the manner in which the houses are grouped and laid out on the site. The street frontages should be considered as a whole, and an endeavour made by recessing certain of the groups and by other architectural treatment to avoid the monotony of a long straight building line. Particular attention should be given to the disposition of houses so as to obscure as far as possible the view of back gardens and drying greens. This object may to some extent be attained at a later stage by the judicious planting of trees and shrubs.

The character of sites will vary to such a degree that in some cases it may be found convenient and economical to erect semi-detached houses, while in others the circumstances may be such as to make it preferable to erect the houses in groups. No group, however, should comprise more than eight houses. Provided the gradients of the ground will permit of it, this grouping is frequently desirable in the interests of architectural effect and at the same time

considerable economy may be effected in the cost of erection. In schemes carried out by the Board the cost of the intermediate houses has been found to average about 10 per cent. less than that of the end houses. Where this method is adopted attention should be given to the means of providing a back or secondary access to the gardens of intermediate houses. This may be effected by pends through the houses or back lanes, as circumstances dictate. The through pend is the more satisfactory.

As a further means of reducing the cost of development, attention should be given to the possibility of grouping a number of houses around three sides of a quadrangle or other open space, with access by a footpath or narrow road from the main road. This method is useful for developing the interior land and has been found to add considerable interest and charm to the appearance of the scheme.

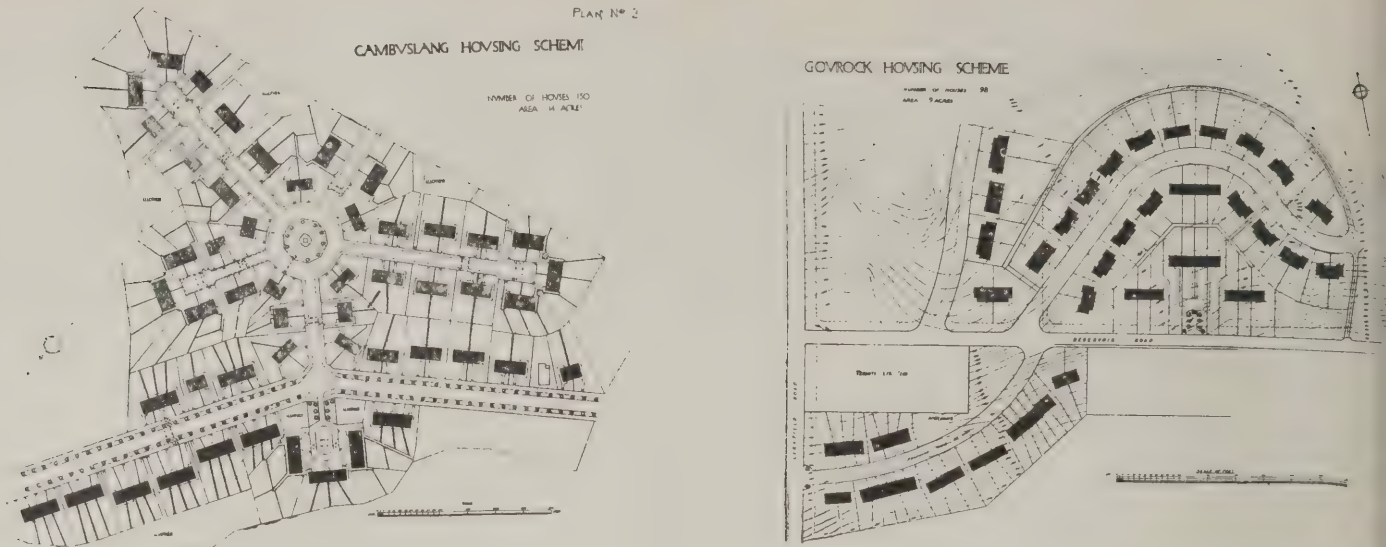
The lay-out and division of the front gardens of houses are worthy of consideration. Where an existing hedge or other suitable division is not available, the gardens should be separated from the road or footpath by a light and inexpensive low fence and hedge. This method may also be used to separate the various groups of houses, the sub-division of the gardens of the individual houses in each group being effected by means of low hedges.

It is further suggested that in some circumstances a much better effect would be obtained if the whole ground in front of a group of houses were left open or enclosed merely with a low hedge instead of being divided into a series of small plots.

#### ACCOMMODATION AND PLANNING OF HOUSES.

The types of houses which have been erected by the Board, some of which are illustrated in this issue, contain the following accommodation, viz.: Living-room, two or three bedrooms, scullery, bath-





PLANS OF HOUSING SCHEMES AT CAMBUSLANG AND GOUROCK.

room, larder, coal store, etc. In a limited number of houses a parlour is also provided.

Living-Room or Kitchen.

This room, being the one in which the family will mainly live, should receive the most careful attention in planning and arrangement. It should be given preference in the matter of aspect. The best aspect is towards the quarter from south-east to south-west, and a living-room should never be planned with windows to the north, north-east, or north-west only.

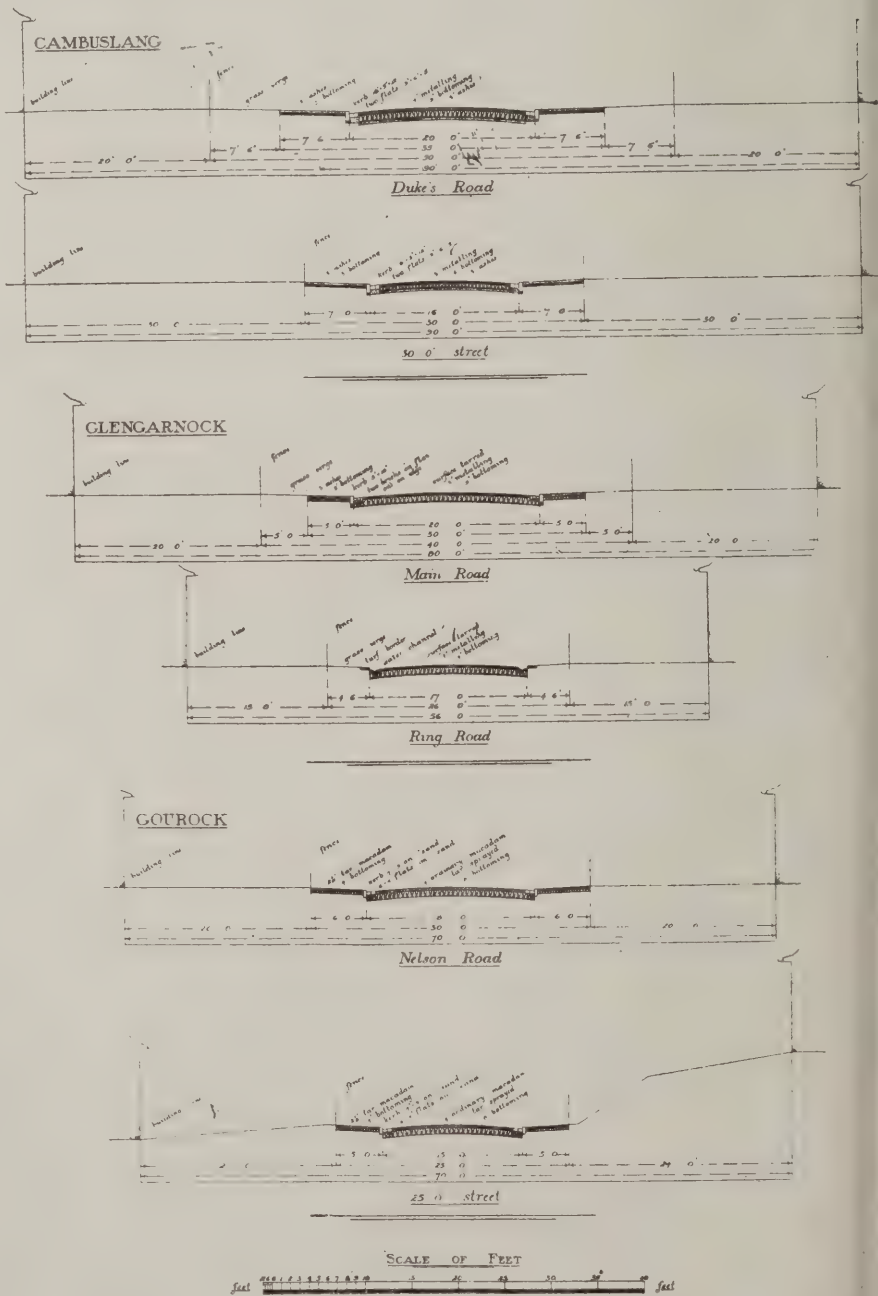
The room should be as large and commodious as possible, and much of its comfort and convenience will depend on the arrangement of the fireplace, windows, and doors. The fireplace should be at right angles to the window, and the portions of the room about the fireplace and adjacent to the window should not have to be used as passage-ways from one door to another. The arrangement of doors on either side of a fireplace is both inconvenient and uncomfortable. If this room is to be used for cooking it should be provided with a range of suitable design with a boiler for hot-water supply. It has been found, however, where gas can be conveniently and economically obtained, that it is preferable to do the cooking on a gas cooker provided in the scullery, thereby allowing the room to be more conveniently used as a living-room. In these circumstances the living-room fireplace may be fitted with an interior or hob grate with boiler for hot-water supply. This arrangement has much to commend it, as thereby better scope will be given for artistic treatment of the fireplace, which will then be more in harmony with the furnishing of the apartment as a sitting-room.

Parlour.

Where a parlour is provided most of the purposes for which it is required will be served by a comparatively small room. It should take second place to the living-room, not only in respect of size, but also in the consideration of aspect. It should not be an entirely sunless room and may face the west with advantage. As in the case of the living-room, it is important that the space around the fireplace should be free for sitting accommodation.

Scullery.

The great advantage of a scullery is that all the household dirty work may be carried out in it, thus enabling the living room to be more easily kept clean and



MODEL CROSS SECTIONS ILLUSTRATING TYPES OF STREET CONSTRUCTION.  
(From the L.G.B. [Scotland] Housing Memorandum.)

ade more comfortable and tidy for family  
2. The scullery should be of sufficient  
e for this purpose, but it should not  
such as would enable it to be fitted out  
d used as a living-room.

The convenience of the scullery depends  
y much on its planning, and the re-  
ive position of doors and windows is of  
at importance. The scullery should  
fitted with a sink and tub with free  
orking space round about. Space should  
provided for a draining-board. A  
table washing copper of not less than  
elve gallons capacity should be provided  
d connected to a flue in the chimney  
ick. Hot and cold water should be  
plied to the fittings. Ample shelving  
ommodation should be provided at a  
venient height. Where gas is avail-  
le space should be provided for a gas  
oker. Space should also be provided  
a mangle and other necessary appli-  
ces. It is an advantage to have a small  
a outside the back door paved with  
ment.

#### *Bathroom.*

The bathroom should be a separate  
artment, and this will as a rule be pro-  
d most economically on the ground  
or. It is desirable that entrance to the  
throom should be obtained directly off a  
assage and not through the living-room  
scullery. Hot water should be sup-  
ed to the bath, which should be of cast-  
n, porcelain enamelled.

#### *Larder.*

Every house should be provided with a  
arder, which, for purposes of proper  
tilation, should have an opening

window to the outside with, if possible, a  
north or north-east aspect. The opening  
should be covered with gauze to exclude  
flies. The larder should be entered from  
the scullery and should be provided with  
ample shelving accommodation. Con-  
sideration should also be given to the pro-  
vision of storage accommodation for the  
garden produce.

#### *Coal Store.*

The coal store should be entered from  
the scullery or, if placed outside, should  
be as near the back door as possible. It  
should be capable of containing not less  
than one ton of coal.

#### *Staircase.*

The house should be so designed that  
it will not be necessary to pass through  
the living-room to obtain access to the  
staircase. Such access should be ob-  
tained from the lobby, and it is also an  
advantage to obtain direct access to the  
scullery and garden from the lobby. The  
steps should not be steeper than 7-in.  
risers and 9-in. treads, and wheeling steps  
should be avoided as far as possible. A  
proper handrail should be provided. The  
stair should not be less than 3 ft. clear in  
width and the arris of any right-angle  
turn should be well rounded or splayed,  
so as to facilitate furniture being taken  
up or down. The staircase should be  
lighted and ventilated at or near the top  
by means of an opening window or roof  
light.

#### *Bedrooms.*

The minimum allowance for sleeping  
space should be 500 cubic feet for an

adult and 250 cubic feet for each child  
under ten years of age. The largest bed-  
room should be capable of accommodating  
two adults and two children. No bed-  
room should have less than 80 ft. of floor  
area. Room ceilings should be reduced  
to the minimum, and, where used, should  
be so arranged that ample space is pro-  
vided for furniture, and that the opera-  
tion of dressing can be performed con-  
veniently. The rooms should be so  
planned that the bed can be placed out  
of the draught from the window, and its  
position should always be indicated on the  
plans. Where possible, a press for hang-  
ing cloths should be provided in each bed-  
room. Where this cannot conveniently  
be done, a shelf placed in a recess, with  
a frame for curtains and pegs, should be  
provided.

#### *General.*

In addition to the special points already  
enumerated, there are some general points  
which should be kept in view in the  
planning of houses, viz.:

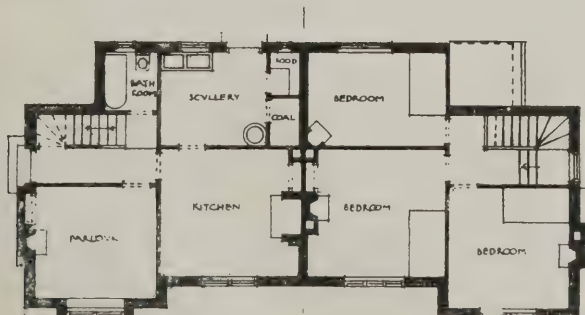
(1) In arranging the plan it should be  
remembered that the greatest economy  
will result from the building being as  
nearly square as possible, the maximum  
floor area being thus obtained with the  
minimum length of walling. (2) Projec-  
tions and outbuildings should be avoided,  
as they add considerably to the cost. (3) It  
is undesirable that any of the rooms  
should be used as passages; each room  
should be capable of being entered sepa-  
rately from the lobby or landing. (4) The  
fireplaces and flues should be grouped as  
far as possible—preferably in the centre



FRONT ELEVATION

SIDE ELEVATION

### PAIR OF HOUSES WITH PARLOUR TYPE C



GROUND FLOOR

UPPER FLOOR



CROSS SECTION

SCALE 0 10 20 30 40 50 FEET

DESIGN FOR PAIR OF HOUSES WITH PARLOUR, TYPE C.

(From the L.G.B. [Scottish] Housing Memorandum.)



of the building. This arrangement results not only in an economy in first cost, but tends to the conservation of heat. (5) Without unduly sacrificing the planning arrangements, every endeavour should be made to group the plumbers fittings together in as close proximity as possible to the boiler in the living-room, so as to simplify the provision of the hot-water service to the fittings. (6) The partitions on the upper floor should, in the interests alike of construction and economy, as far as possible be directly above those on the ground floor. (7) The position of presses should be carefully planned. It is not sufficient to designate as a press any corner that might otherwise be waste space, although such spaces should, of course, be utilised. (8) In designing the elevations it should be remembered that economy will best be obtained by a simple treatment of wallhead, while roof cuttings should be avoided as far as possible. Though it is undesirable to lay down hard and fast rules as to design, it will be recognised that the arrangement of furniture is easier when room ceilings are avoided, and that expedition in erection is more readily secured when a level wall-head is provided.

#### ROADS.

In determining the width of through or traffic roads, regard should be had not only to the traffic that will immediately fall upon them but to the traffic that is likely to be carried on them in the future. On the other hand, internal roads may be narrow in width and light in construction, provided that there is an ample distance between the buildings on either side. There is thus effected a saving in cost of construction and maintenance to the local authority, and it is better from the point of view both of the local authority and of the tenants that additional ground should be made available for gardens rather than be taken up in unnecessarily wide roads.

Roads should follow valley lines rather than ridges, as thereby houses are more easily kept at a level well above the finished level of the road and drainage is more economically provided.

Attention is directed to the illustration on p. 100, showing cross sections of roads indicating the type of construction which the Board have arranged with various local authorities, burghal and county, as being sufficient and suitable. The roads in question will be taken over and placed on the register as public streets by the burghal authorities concerned, or will be added to the list of highways in county districts.

#### SERVICES.

**Drainage.**—It is desirable that the whole scheme of drainage should be considered fully in the first instance in order that excessive excavation may be avoided and all reasonable economies may be exercised. In the schemes executed by the Board groups of houses have been connected to the sewer by one main house drain for each group, and the introduction of traps has been reduced to a minimum. Ample ventilation has in all cases been provided. The application of any particular method of drainage to local circumstances will, of course, need consideration in each case.

**Water and Gas Supply.**—In the case of water and gas services similar endeavour has been made to reduce the number of separate pipes and connections. Here again local circumstances will need to be

taken into consideration in selecting the most suitable method.

#### DESCRIPTION OF PLANS.

##### Lay-out Plans.

Plan No. 1 was given last week.

Plan No. 2 (p. 100) shows the lay-out on a somewhat irregular site of a scheme comprising 150 houses at Cambuslang, Lanarkshire. The houses are built in pairs or groups of four houses with an average density of eleven houses per gross acre. It will be noted that the main road is the only one providing for through traffic. The subsidiary roads are formed with narrow carriage-ways, houses being grouped at the terminals. In this scheme also a number of houses have been grouped around a quadrangle with access by a footpath having a grass margin on either side.

Plan No. 3 (p. 100) shows the lay-out of a scheme comprising 100 houses at Gourrock. The scheme had, unfortunately, to be carried out in two sections, as an additional number of houses was found to be required after the first houses had been provided. Accordingly the lay-out is perhaps not so satisfactory as might have been obtained had the scheme originally been considered in its entirety. The site, as will be seen from the contours, is practically on the side of a hill, and this fact has largely determined the lay-out. The lines of the main roads follow closely the general contours of the ground. The

houses are built in pairs or groups of three, four, and six houses, with an average density of eleven houses per gross acre. The site commands magnificent views of the Firth of Clyde, and, in order that these may be fully enjoyed, the number of the houses in cases where the orientation permitted, present their back elevation to the street and have the living room facing the sea frontage.

Plan No. 4.—This plan shows cross sections of roads indicating the type of construction adopted (see p. 100).

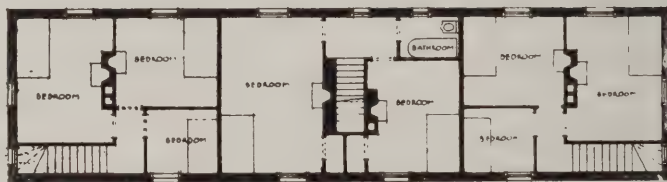
##### Type Plans of Houses.

Plan No. 5 (Type A) of a group of four houses was given last week.

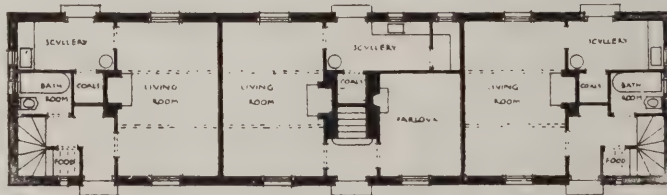
Plan No. 6 (see below) shows a group of three houses designed with "through" living-room for use on north frontage. This plan involves a wide frontage, but a type which will be found essential in most schemes. The entrance to the bathroom in the end house is from the entrance passage, and it will be noted that in this position the supply of hot water from the boiler of the living-room fireplace is economically obtained. This factor has determined the position of the living-room fireplace, which otherwise would have been better placed on the wall opposite the door. Its present position between the two doors does not conduce to comfort in the sitting space round the fire and tends to interfere with the traffic between the front door and the scullery. The size of the



FRONT ELEVATION



UPPER FLOOR PLAN



GROUND FLOOR PLAN



DESIGN FOR GROUP OF THREE HOUSES, TYPE B.

(From the L.G.B. [Scotland] Housing Memorandum.)

third bedroom on this plan is rather small. The wallhead at the back wall is kept up to full height, and thus enables square windows to be provided for most of the bedrooms. The plan of the intermediate use illustrates a useful arrangement by which two of the apartments are provided on the ground floor; one of these can be conveniently used either as a parlour or bedroom. The provision of the bathroom on the upper floor is more expensive than it had been provided on the ground floor, additional length of piping is required. Houses of this type have been erected at Burdock and at various sites in Lanarkshire.

Plan No. 7 (p. 100) shows a pair of houses with a parlour in addition to the living room and three bedrooms. The bathroom is at the foot of the stair, and therefore convenient of access from the rooms on either floor. The open staircase of this type adds interest and appearance to the entrance passage, which is large enough to provide suitable hanging accommodation for coats and hats. The elevations are rather more ambitious than in other types, and the upper portion of the front wall between the projecting gables is executed with slate hanging. Houses of this type have been erected at Burdock.

## THE R.I.B.A. RECORD OF HONOUR.

The following particulars are taken from the R.I.B.A. Journal:

### *Fallen in the War.*

Capell, Second Lieut. Bruce Lorence, M.C., R.G.A. (younger son of Mr. Bruce John Capell (A.). Killed in action.

Chuteley, Lieut. Charles Taylor, Royal Warwickshire Regiment, Associate. Died on July 1 of wounds received on June 29.

Lawton, Lieut. William Victor, R.E., Student. Fatally injured in a riding accident in France.

Lieut. Lawton joined the Colours in September, 1914, was attached to the Yorkshire Dragoons, and served in France from July, 1915, until his death on July 8. He was granted a commission in Royal Engineers in 1916. Whilst serving in the R.E. Divisional Show on July 1 his horse refused a fence, reared, and fell upon him, causing fatal injuries. He was twenty-six years of age, and the son of the late Charles Lawton, F.S.I., and agent, of York, was educated at St. Peter's School, York, and served his articles with Messrs. Perkin and Buxner, Architects, Leeds. He was also some time in the office of Mr. Walter Cave. His nomination papers for the Associateship of the Institute were only completed a few days before his death. He was a fearless player, and took great interest in all sports, especially football and cricket.

At, John Douglas Dickson, Associate. Missing since July 1, 1916, now assumed to be dead. He was in the War Office to have been killed on that date (the first day of the Somme offensive).

Lieut. P. Minor, whose death in action was recorded in the last issue, was the son of Mr. Walter Richard Minor, solicitor, of Manchester, and was educated at Wellington. He served his articles with Messrs. Skeley and Cubbon, Manchester, and subsequently became partner in the firm Taylor and Minor, of Darlington. He

was elected Associate of the Institute in 1907. In 1915 he was granted a commission in the Durham Light Infantry, and for some time served on the Quartering Committee of the Northern Command. In January, 1917, he crossed to France, and had been serving there from that time till his death on May 27. Only the week before he fell he had been noted for mention in the next Honours dispatch. He has left a widow and two children.

### *Military Honours.*

Taylor, Captain\* John Alexander Chisholm, Manchester Regiment (Student). Awarded the D.S.O.

"He was in command of the Company on the right flank, to which he added some 300 men collected from other divisions. By a prompt counter-attack he defeated the enemy's attempt to envelop the right flank. His coolness, promptitude, and personal gallantry were a great incentive to his men."—"London Gazette."

Captain Taylor, who was studying in London when war broke out, joined the Manchester Regiment and was sent to Egypt in 1914. He was in the Gallipoli campaign in 1915, went through the Sinai Peninsula with the Desert Column in 1916, and went to France early in 1917.

Major Atkin-Berry.—In chronicling recently the award of the D.S.O. to Major H. C. Atkin-Berry, Tanks Corps Staff, mention was omitted of the Military Cross which had been previously conferred upon him. Major Atkin-Berry is a Professional Associate of the Surveyors' Institution, and a partner in the firm of Messrs. Swan and Maclaren, architects and engineers, of Singapore, Federated Malay States. He came home soon after the outbreak of war, having obtained a commission in Singapore, and has been serving in France continuously since October, 1915. Before going to the East he was a member of the Artists' Rifles, and subsequently of the Malay States Volunteer Rifles.

### *Promotion.*

Lieut. (Acting Captain) L. S. Sullivan (A.), 93rd Labour Company, has been gazetted captain.

## STATE v. PRIVATE HOUSING ENTERPRISE.

At the Aldwych Club recently Mr. A. W. Shelton, F.A.I., of Nottingham, gave an after-lunch talk on "The Housing of the People," basing his remarks on a report he made in April, 1917, to the late Lord Rhondda, who appointed him a member of the Local Government Board Housing Advisory Conference. Before the passing of the Finance Act, 1910, he said, the working-class housing needs in most urban districts were fully met by private enterprise. That Act, however, destroyed all credit, confidence, and stability in house property, and its finances and capital turned in other directions. Most owners of house property were now eager to sell, even at a considerable sacrifice. At Nottingham it was probable that 75 per cent. of the property could be acquired at an amount 25 per cent. less than its normal value.

At present, he continued, there was an estimated shortage of 450,000 houses, and that shortage was growing at a rate of 75,000 annually. When peace came, between 500,000 and 600,000 new houses would be needed, quite apart from the increase called for by the normal growth of

the population, which would probably bring the total up to one million houses to be provided for within five years of the declaration of peace.

Turning to the State scheme of housing, he contended that the building of cottages by local authorities was unduly expensive without any corresponding advantage for the extra cost. Housing by private enterprise was the most economical method, and it was more just because it demanded an economical rent.

There was no more reason for the State to provide a man with a house than there was with a pair of trousers. Only in cases of exceptional urgency and as a provision for the very poor was State housing at uneconomic rents justified. Before private enterprise, however, could undertake the task of providing the houses that were required, the amendment or removal of Part I. of the Finance Act, 1910, was essential. That was the only way of realising the expectations of the Local Government Board that "private enterprise has always been and is expected to continue to be the main source of the provision of houses for the working classes." Nothing else could restore confidence, credit, and stability in house property as a sound security for investment, occupation, or mortgage.

The difference in the cost of building by the State and building by private enterprise was quite 25 per cent. The average cost of building a cottage was £200, and on that basis £1,000 spent by the private builder would produce five cottages as against four by the State for the same expenditure. If the rents of State cottages were based on the cost of production it would mean that the tenants would pay 1s. 3d. in rent for every 1s. paid by the tenants of a private builder of cottages. The letting of State cottages at uneconomic rents would create a deficiency that could only be met out of the rates or Imperial taxation.

With regard to slum property, that might well engage the attention of local authorities, and such building schemes would occupy their energies for the next twenty-five years. It was only about 10 per cent. to 15 per cent. of the working class that could not afford to pay an economic rent, for the average family expenditure was excessive in the direction of drink, amusement, betting, and other social occupations. The direct payment of rates would bring the working people to a keener realisation of their duties as citizens, and it should certainly be insisted on in respect of all State-subsidised houses. Not more than 20 per cent. of the occupants of working class dwellings paid direct rates, and it should be made a condition of the exercise of the franchise.

He urged the formation of a small Government Department to collect up to date information on the existing housing conditions in all urban and rural districts. All the facts could be obtained in three months. At present there was no machinery for collecting the information. The department should have a committee of expert and experienced business men with a knowledge of building in all its aspects.

"I have reason to believe," he said in conclusion, "that a scheme has recently been submitted to and is now under the consideration of the President of the Local Government Board, which is in effect a partnership between the State, the local authority, the building society, and the tenant. It provides for the building of houses by private enterprise at a price which will give the builder a living profit."



## THE OPEN-STAIR MULTIFAMILY HOUSE IN THE UNITED STATES.

BY JOHN ATTERBURY SMITH

[Editorial note: Mr. John Atterbury Smith is an enthusiastic advocate of the type of dwelling he here describes. Mr. Smith is an architect by profession and has studied the housing problem for many years in many countries. He was the architect of the pioneer open-stair tenement in the U.S., having planned a group of buildings on this model in New York City which, on property measuring 300 ft. by 100 ft., now houses 281 families.]

Since the war, and particularly since the U.S. entered it, the shortage of homes in many towns has been obvious to the least observing. Large American cities, all of them, are filled with buildings that are overcrowded. Many buildings originally intended for but one family now shelter more, and homes originally intended for but one family now as a custom take in one or more boarders. Even previous to the war there was a growing shortage of adequate housing for the low-wage earner.

To supply this shortage has been a problem that has been very seriously considered by sociologists and economists advising the Government and the larger industries. The laws of demand and supply seem to have broken down as an immediate result of the war, and Government aid is at this writing considered the only means of stemming the rapidly increasing housing shortage.

Now, whether by Government or by industries, or by individual builders, the type of house that is to be selected is of grave importance. There are many who advocate the single house, or the continuous row of houses. But I am going to advocate the multifamily house and recommend in this article a so-called "Economic Open Stair Multifamily Dwelling."

The essential features of this are: (1) That the occupant shall have as much privacy and freedom and accommodation as in any other class of building. (2) That he shall approach his home in and enter his apartment from the fresh air. (3) That once within his home he shall have no intercommunication with any other family. (4) That the home shall consist of as few rooms as the occupant may care to afford down to two rooms, or even one.

Each suite, no matter how small, will have all the usual public utilities that are known to be of economic value and conducive to private health and necessary from the public health's standpoint. Furthermore, no living room, kitchen, or sleeping room will be surrounded on more than three sides with other rooms or parts of the house; that is, one whole side at least of each room shall present its whole surface to the outer air.

In the basement there should be (1) the boiler room, containing a central heating plant that generates sufficient heat to warm the remotest room in the coldest climate; (2) an incinerating plant for the immediate cremation of all garbage and refuse; (3) a diet kitchen where prepared and hot food can be purchased and taken to the home for consumption by those who from necessity or choice prefer to get some or all of their meals in this way; (4) a co-operative store for standard articles of household use; (5) a reading or meeting room for the general use of all the occupants; (6) a general storage room for excess furniture, trunks, etc.

The remainder of the house is for living purposes, containing suites entered from

the outside, from the "open stair" landing, which also has an opening to the hand lift or hoist that connects all floors with the basement and roof, which is convenient for the delivery of goods, taking down of garbage and ashes (where gas, either natural or manufactured, is not available for cooking), and for taking up washed clothes to dry upon the roof.

Each suite has its own complete bathroom and toilet, with hot and cold water; a kitchen supplied with a wash tub and sink, and a gas or coal range, together with a cupboard or dresser for pots, pans, and dishes. The other rooms have no furniture or furnishings except light fixtures and shares for the windows, presses for storage of clothing and household effects not in use.

There is no reason every occupant cannot, if he chooses, have a financial interest in the company, either as a secured bondholder, or as a profit-bearing stockholder; or the whole building could be based upon a truly co-operative basis, with a return to the occupant of all the surplus after maintenance; the wage of the capital invested, and a proper amount for amortisation or depreciation has been paid.

So far, the open stair multifamily dwelling idea has not taken root in the industrial town or village, but it has been tried out for many hundreds of families in New York and other large cities. In such cities the custom having already been accepted, a high compact building results.

One group of buildings was built in New York in 1911 and 1912 on a property measuring 300 ft. by 100 ft. It houses 281 families of fourteen nationalities. The land cost \$120,000; the buildings, with fees and carrying charges, \$385,000 additional. There was \$212,500 stock issued, which received 5 per cent. annual dividend in quarterly instalments. The remaining obligation of \$293,000 received 5 per cent. for the first five years, but lately having been reduced to \$270,000 out of surplus earnings, has been reduced to a little over  $\frac{1}{2}$  per cent.

### THE "FUEL" RATIONING ORDER.

The public run the risk of seriously misunderstanding the new fuel rationing order, and consequently, as it happens, of gravely prejudicing national interests, unless a fundamental point which is generally not understood is promptly made clear to them. The scale of allowance per house in the order is in terms of *fuel*, not of *coal*. Because it is stated in "tons," everyone is at first inclined to think that this means an allowance of so many "tons of coal."

It does not mean anything of the sort. It means so many "tons" allowed of an abstract thing called (for the purpose of the Order) "Standard Fuel," each "ton" of which is declared (for the purpose of the Order) to be equal to either one ton of coal or one and a half tons of coke, or 15,000 cubic feet of gas, or 800 Board of Trade units of electricity; and the householder is free to take his allowance in any one (or any combination) of these different forms of "fuel."

It would have saved much misunderstanding if the scale had been drawn up in terms of "units" instead of "tons" of "fuel," each "unit of fuel" being equal to so much coal, coke, gas, or electricity, according to the proportions above-mentioned. The public would not then have got it into their heads that they are to be allowed so many tons of "coal," and a small amount of gas or electricity for lighting, which, if they choose to go short of

light, they can use for other purposes—interpretation very far wide of the mark.

Now the fact is that the Government desire that the use of gas for fuel should be as fully maintained as possible, and the saving in fuel rendered necessary by the various causes which are tending to a shortage of coal should be made as much as possible in coal previously burnt in crude form. Why?

Because, firstly, from every ton of coal taken to the gas works and turned into gas, coke, tar, and ammoniacal liquor, the country gets (in addition to fuel value) substantially greater than that obtained from the coal if burnt direct in the domestic grate) invaluable by-products, from which are made the high explosives so necessary to the Navy and Army, fuel oil for the Navy, fertilisers for the land, important disinfectants, dyes for the manufacture of hundreds of other chemical products of great importance to industry, all of which are absolutely wasted when coal is burnt as it comes from the pit.

Because, secondly, as much fuel value is obtained from 750 tons of coal carbonised at the gas works as is obtained from 1,000 tons of coal burnt direct in the domestic grate. That means (a) 25 per cent. saving in the coal resources of the country; (b) 25 per cent. saving in the labour required in the mines; and (c) more than 25 per cent. saving in the transport required to and in the towns.

### PROGRESS OF CONCRETE SHIP CONSTRUCTION.

Reports from the various reinforced concrete shipyards in England, Scotland, and Ireland show that good progress is being made in the construction of 1,000-ton sea-going barges for the Admiralty Department of Merchant Shipping. Vessels of this class are urgently required, and the programme of construction already authorised comprises barges and other vessels, representing some 200,000 tons of shipping and a capital outlay estimated at nearly £4,000,000, against from the cost of land and shipyard plant. On the designs adopted the saving in weight is fully 70,000 tons on what would otherwise be required for steel ships of the same carrying capacity. It is believed that a larger saving will be effected when statistical data become available as to the minimum proportion of reinforcement that may be employed with safety.

The United States Shipping Commission have not advanced quite so rapidly as our own Admiralty in the matter of concrete shipbuilding. According to latest advices the United States has only two concrete shipyards ready for operation compared with nearly twenty in the United Kingdom. On the other hand, America has been credited with the completion of one reinforced concrete steamship of 5,000 tons capacity, a courageous experiment, which has been amply justified by the vessel's successful trial trip and subsequent voyage.

According to official estimates, the cost of wood, steel, and concrete hulls is £35 and £25 per ton respectively. For the programme of the United States Shipping Board for fifty-eight concrete ships of 7,500 tons capacity, represents an outlay on hulls alone of about £10,870,000 on the basis of 435,000 aggregate weight capacity. The saving in steel probably exceed 125,000 tons, and the saving in the cost of the vessels, as compared with steel, according to the official estimate, will be £4,350,000.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

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TOTHILL STREET, WESTMINSTER.

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## NATIONAL PAPER ECONOMY.

*owing to the very necessary Government restrictions on paper supplies, all elements of waste must rigorously be excluded. Our readers, we are sure, gladly assist in promoting this object, which is of great importance in national economy. They can co-operate with us effectually in either of two ways—(1) By placing a direct subscription for this Journal, or (2) By placing with a newsagent an order for its regular delivery.*

*The Government Paper Controller has strictly forbidden the return of unsold copies of newspapers and periodicals to the publishers. Newsagents are therefore now keenly interested in the elimination of the casual customer, and are morally compelled to obtain only those papers that have been previously ordered. This fresh development strongly emphasises the foregoing advice to place a direct subscription or to give a newsagent a standing order for regular delivery.*

SOMEWHAT sardonic proposal, made by a leader-writer in the "Western Times," of Exeter, is to tax land on the basis of the owner's estate. A local authority, it is stated, asked £120 an acre for land assessed at a few shillings. Take these extortionate gentlemen at their word, and there will be a wondrous slump in land values. It is an alluringly certain scheme, but there is really no need for it; it would be easily possible thus to make the punishment fit the crime. Such a casual method of taxation would lead to anomalies more flagrant than any which at present afflict us. It is hardly more fantastic than they, but this has a slightly stronger air of comic opera, and to suppose the writer so serious in making it would proclaim a defective sense of humour. Exaggerated points, however, whether made in jest or in earnest, will often secure attention where logical argument would fall flat, and a rather impudent suggestion may at least help to stimulate interest in the land question. It is of little use to tinker with the land laws; and the retort that in this country the habit of tinkering is inveterate and ridiculous loses its sting when we can point to the tinkering measures that war-time exigencies have imposed upon us. Then, again, we have before us a recent example of the extensive selling of landed estates. This movement is not merely exemplary: it is portentous. These vast estates may not, as some have facetiously prognosticated, be ultimately divided into three-acre allotments: but whether or not they are subdivided, they change hands, and the new owner does not necessarily take over the old one, but is likely, in many instances, to have been brought outside the landowning class or caste, and to raise land questions from an unconventional point of view. In many instances the change will have serious drawbacks, as when the newly rich vulgarian brings into the country his disreputable town habits and graceless manners, and attempts to combine the town and rural dissipation.

It is not to be supposed, however, that the excellent estates which the released lands are fetching are all being paid by plethoric profiteers eager to become landed gentry. Their intrusion in large numbers

on this domain would not be an unmitigated curse. They would help to kill that sentimental tradition of land-owning by inheritance and entail which, while its many virtues may be freely acknowledged, has, on the whole, a retarding effect on progress. For the very essence of this tradition is a kind of ancestor worship which tacitly deprecates change as an impious departure from the customs of our forefathers, a constructive insult to their manes. There are, indeed, many prejudices that must be remorselessly uprooted like so many rank weeds before the land can yield full profit. None of it should be allowed to remain idle for any man's pleasure. Public parks are necessary, but private parks should not be tolerated in a country whose total acreage is comparatively insignificant. Every acre of it should be turned to account—if not as arable or pasture land, then as building-sites. Compulsory tillage would prevent an enormous amount of land-wastage in rural districts; and in an Act compelling the abandonment of land-hoarding a clause should provide that for each agricultural area there must be adequate housing provision for the labourers as well as for the beasts of the field—so many acres, so many houses of approved design and construction. Five years ago this suggestion would have been resented furiously, as gross "interference with the liberty of the subject"; but the war has taught us to be less assertive of our rights and more submissive to our duties, and the newer view and its consequences will prevail more easily with the newcomers than with those whose ideas on agrarian law and polity have been inherited with the land as a sort of inalienable appurtenances. And not only will the new proprietors be less rigid. If, immediately or soon, the estates they are now acquiring are subdivided into more wieldy parcels, there will be a great gain in mobility. Proprietors will be more approachable, and will not have to be torn up by the roots. Regarding their holdings from a business point of view rather than as sacred survivals of the ritual of ancestor-worship, they will be more ready to sell them or to build upon them.

Frequent re-parcellings and re-sellings of land should soon free it from the grievous burden of legal expense that at present encumbers such transactions. They will not, perhaps, wear away by attrition, but they will be brushed aside impatiently. There will be no such thing as an "encumbered estate." Anybody caught muddling up his private affairs to the detriment of the public interest in real estate should be made to smart for his offence. Expenses of transfer should be fixed by law, and the purchaser's receipt for the price paid for the parcel should be his indefeasible title to it. That would put an end to wasteful and interminable law suits, and would get rid of the scandalous anomaly of the transfer fees for a small plot of land exceeding the purchasing price. It has been said that in this country we love complexity and despise simplicity, this being the basic reason why we are such bad artists! It is probably the reason why we have so long tolerated our most complex land laws. We can no longer afford to indulge this vitiated taste for getting ourselves and our estates entangled in the meshes of the law and "strictly tied up" in a knot. It may be an interesting amusement, but it is bad business, and the state of the national exchequer requires that we shall in future conduct all our business



with the utmost efficiency and economy. There can be no doubt that nearly all our home troubles are fundamentally agrarian. Landlords and lawyers are getting too much out of the land, and the actual workers on it—whether as agriculturists or as builders—are getting too little out of it: taking the kingdom throughout, the land is more absorptive than productive. This condition must be reversed. It may be premature to hail the extensive autumn sales as a long step towards reform; but any sign of life and movement is a welcome change from chronic inertia, and the more frequent the sales, the greater the number of persons who will become intimately acquainted with the iniquitous absurdities that clog and hamper such transactions. In a little while, the number of persons directly interested in the land laws will be greatly multiplied, and public opinion on the matter will become imperative for thorough reform. In particular, it will give short shrift to any politician who is old-fashioned enough to see in the land laws merely an opportunity to make party capital, and will oppose any Government that has but one notion about the land—to wit, to tax it. One of the earliest and most imperative duties of a Government free once more to attend to the things that belong to our peace will be, not to impose fresh burdens on the land, but to remove those that clog its economical development.

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When the land problem is seen steadily and whole, it will dawn upon an awakened community that the system of ground-rents is altogether abominable in its iniquity. Why should it be possible for anyone to exact rent for ninety-nine years or more because a building is set up on it? If this arrangement does not seem absurd instantaneously on its statement, that is because the yoke to which we were born seems so natural to us that we seldom think of rebelling against it. And the lease is usually very stringent. Not only does the landowner demand an enormous rent for his land, he doing nothing whatever to earn the money, but he insists that the house shall be kept in repair for the benefit of himself, his heirs, successors, and assigns, and shall be handed over to them in good condition when the lease has expired, or a long while before that on failure to pay the ground rent. If it is burnt down or otherwise destroyed, the leaseholder must build it up again, and the landowner is thoughtful enough to make certain about this re-edification by seeing that the building is fully insured—at the leaseholder's expense, of course. Could anything be more lopsided and unfair? Such a state of things should not be permissible. It is immoral, and should be prohibited by law. Foreigners hearing of it for the first time are aghast at the wickedness of it, and at the weak foolishness of the people who put up with it; but landowners talk about it (when compelled: otherwise they maintain a discreet silence) as if it were ordained from heaven that they should batten on the land of which they have acquired or inherited possession. "The law allows it," but this is not the kind of economy that tends to national prosperity. It warps the sense of justice and is in effect a malversation of money. These people are really usurping a prerogative of the State, and levying a private tax on property; for they do nothing in return for the money, except receive it. Often they are too indolent to collect it: the leaseholder must deliver it to them! Let the State look to this, for it renders building interests rotten at the root.

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Some surprise has been expressed that builders can be so wicked as to expect to make a profit out of housing. Clearly they ought to be patriotic enough to assist national housing without being paid for their services, and to be proud of the privilege. It must have

been with considerable astonishment that a person which had settled down comfortably to this vicarious altruistic idea read the remark of Mr. A. W. Shelton that "that a scheme has been recently submitted to a new Government now under the consideration of the President of the Local Government Board, which is, in effect, a partnership between the State, the local authority, the building society, and the tenant." It is rather a complicated arrangement, the tenant seeming to be put into it as a sort of paying guest. But the astonishing part of the business is that the scheme "provides for the building of houses by private enterprise at a price which would give the builder a living profit." It is a very daring declaration, and will greatly scandalise that large and influential section of the public who think that everybody but themselves should work for nothing—who would answer in the negative to the question, "Is not the labourer worthy of his hire?" and who would hold that to muzzle the ox that treads out the corn were a right economic precaution. On the other hand, Mr. Shelton's assurance—and as he is a member of the Local Government Board Housing Advisory Committee, it may be assumed that he is not speaking at random—is a plain indication of the value of private enterprise being at length officially recognised, the State is not obstinately bent on forbidding it. State aid in the national interest, whether or not it happens to be incidentally of private benefit, had become inevitable in several directions; and the building industry, although it is not one of those businesses that are in the highest degree exposed to "peaceful penetration" of the Von Sneaks, has been brought to a standstill by the direct interference of the State, which in fairness should help it to rise again rather than complete its ruin by imposing upon it harsh conditions in relation to the national housing scheme.

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Other industries of recognised national importance are being rehabilitated through State aid; and yet the system may easily lead to abuses, that is the reason why, on the whole, it should not be of immense value in preserving British industries from insidious and unscrupulous foreign competition, and of no advantage in tiding over a crisis such as that in which builders are suffering. How the builder is to get his "living profit" without a ledger-loss being suffered in some direction Mr. Shelton did not divulge. It is quite certain, however, that State intervention in housing must be merely a temporary measure. It cannot go on. It is not conceivable that the present rents, kept down artificially by State interference with the normal operation of the so-called "law of supply and demand" will remain when the downward pressure is removed, to leap upwards in sympathy with the higher cost of labour and materials, which costs, while losing much of their time inflation, cannot be expected to come down generally to the pre-war level. Wages will remain at a rate commensurate with an economic rent. That is to say, the worker, earning more money than he needs, will be in a position to pay more rent. This is simply a threefold blessing—housing will be self-supporting, it will yield builders a legitimate profit, and the standard of comfort and convenience will be higher. As Mr. Hayes Fisher has said, we want not only more houses, but better houses. Their tenants will be better able to pay for them. It cannot be supposed that, for instance, the wages of agricultural labourers, which have doubled and trebled during the war, will ever sink again to the old starvation level that made any primitive hovel seem suitable for the poor hinds—mud huts were mentioned as likely to afford excellent shelter for these spiritless folk; the war has altered all that, and has wrenched the housing problem clean away from the vicious circle to which for centuries it had been confined.



## HERE AND THERE.

ALL cliffs, whence the sea has withdrawn two or three miles, form the chief boundaries of the Ancient Town of Rye, determining the lines of its plan within the gates; but why the wall outside the Landgate is not axial to it, but turns off at a half-right turn, baffles conjecture. It would, perhaps, be unfair to assume in our rude fathers a love of devious ways, a crookedness of mentality that found its natural expression in crooked roads. This particular road drifts casually over the meanest bridge ever conceived by the mind of a railway engineer. It is a bridge of size; for it crosses not only the railway cutting, but a valley of considerable width. With its plain brick bulwarks and its greasy asphalted floor, it degrades unspeakably an otherwise beautiful town. It would not cost above five farthings more to relieve the mass with a little panelling, toothing, creasing, or other device of the bricklayer for investing his work with the grace that expresses joy and mastery in the execution and a desire to please by it. The bald bridge suggests neither pleasure nor the desire to please. It suggests not "full measure, dressed down and running over," but miserly means, as if the worker had set about his business in a mean and sordid spirit, had performed his task grudgingly and of necessity, and had quitted it with a savage satisfaction in the thought that, besides casting a blight on a fair town, he had earned the gratifications of every virtuous beholder; for this bridge is an obscene thing.

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ts bricks, which, of course, are laid in engineer's bond—headers and stretchers in alternating rows—have a curiously dumpy appearance, being too short for their depth, or too deep for their length. Those dimensions are, I think,  $8\frac{1}{2}$  in. by 3 in., and the squat form is the more noticeable after you have admired, in the town, the sweet uses of the more shallow bond in which the eighteenth century revelled—a bond of better proportions, I think, than our modern standardised brick, which, no matter what bond is used, gives always a slightly clumsy appearance, which is rather emphasised than relieved by pointing in white or blue. I must confess, indeed, that in one of those eccentric persons to whom pointing is anathema. It is too smart; and it cries aloud for the perishable mortar whose weaknesses it is intended to disguise. An early specimen of brickwork is the front of the old grammar-school, in the High Street of Rye. Built in 1636, it is less remarkable for its antiquity than for its oddity. It is an ambitious attempt to treat brickwork decoratively; and the result is a clear demonstration that in the last quarter of the seventeenth century the technology of brickwork was not so well understood as it was when Bentley revealed it in Westminster Cathedral. Much as I am interested in the front of the old grammar-school, I cannot resist the conclusion that the builder's obvious enthusiasm for his material led him to employ it a thought too exuberantly in pilaster and panel, doorhead and pediment. Truly, to achieve fine effects by simple means is the hardest of tasks, and a man's demerit is more frequently and more surely assumed from his bunglings in brick than from his stumblings in stone. I am not one of those who prefer Wren's brickwork to his stonework, and his judicious mixture of both to either separately. Is it not perilous to separate them? It is seldom be done with impunity. Of course, I don't mean that a stone building would be the better for brick dressings; but I always feel that stone sills in brickwork building are kept in better countenance by the addition of stone dressings to frame or unify the masonry—string course, angle-quoins, and the like.

Rye Old Grammar School has not in its frontage, as far as I can see, a particle of stone to relieve or to bind together its rather self-assertive assemblage of red bricks. It is recorded that there were originally stone mullions to the windows, but wood has superseded them. Oddly enough, the bulk of the school building is of stone, and I am wondering whether this is a unique instance of a stone building with a brick front, reversing the widespread practice, the perpetrators of which point to Wren's example of fronting a brick building with stone. I can recall no nearer approach to the Rye Grammar School specimen than the rather frequent facing with brickwork of reinforced-concrete buildings. What, then, is the explanation of this seventeenth-century brick-fronted stone building? It is, I imagine, that brickwork had suddenly become popular. Commonly it is said that brickwork did not come into general use until the Great Fire of London (which occurred thirty years after the grammar-school was built), but here is an instance of considerable skill (presumably local) in the use of it, and of its application to so common a building as a grammar-school, early in the seventeenth century, when, we are often told by historians, bricks were almost as rare as glass, and were a monopoly of the rich, who made pretty chimneys with them, while ordinary folk constructed their buildings of anything that happened to be at hand, from wattle and mud to oak and plaster. Here in Rye the old buildings show almost every material of construction. Two small houses that would seem, from their style, to have been built in the seventeenth century, have a skin of lath-and-plaster. It might be instructive to analyse that ancient plaster, which seems to be remarkably tough stuff, adhering stubbornly, apparently after centuries of service, to oak laths of random shapes and sizes.

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Nine generations of boys crept, "snail-like, unwillingly," to this school, whose obtrusive and most distinctive brickwork face thousands of them must have learned to hate, and perhaps some few score may have learned to venerate, although its walls had resounded to their agonised howls: for during at least two hundred and fifty of the two hundred and seventy years of the school's active career, stick, strap, birch, or other instrument of torture, was regarded with superstitious awe as the chief appointed means of imparting knowledge and promoting piety. There were brutal boy-thrashers before Busby and Keate, and those schoolmasters who came after them were strongly tempted to emulate them in this branch of education if they could do it in no other. (What else could have given rise to the popular form of threat—"I'll learn yer"?) But when the school building, superseded by a brand-new secondary school, was put up for auction, why was it bought by a syndicate with the idea of "preserving this antiquarian relic to the town"? Was not the town already passing rich in "antiquarian relics"? Of course, I am glad that they performed this pious act, whatever their motive; for, independently of the interest of the building as a riotous sample of seventeenth-century brickwork, one reflects that if it had been demolished a modern building would have been put up in its place—a building either aggressively and rawly up to date or else—what is more likely—contemptibly sham antique. Was this the consideration that brought the syndicate to purchasing point? No; because syndicates, like the rest of us, usually act from mixed motives. That may have been one strand of the cord. Probably another, equally strong, was that Thackeray had rendered the building immortal.



In "Denis Duval" he makes his hero say: "I was sent to a famous good school, Pocock's Grammar School at Rye, where I learned to speak English like a Briton born as I am, and not as we did at home. . . . At Pocock's I got a little smattering of Latin, too, and plenty of fighting for the first month or two." I will confess that it has been always inexplicable to me how grown-up people can feast their imagination on such figments as "This is the house in which Mr. Pickwick lived when he retired to Dulwich," or "This is the identical back-room in which Dick Swiveller 'passed the rosy' to the Marchioness." When I am shown these places, I always suppress the desolating knowledge that Mr. Pickwick never lived anywhere, and that Dick and the Marchioness, being airy nothings, never drank anything. But I am glad to remember that Dickens gave each of these characters a local habitation as well as a name, and mightily pleased (I could hardly explain why) to think that at any rate Dickens had probably visited these places. Similarly, I take a childish delight in believing that Thackeray had gazed upon the high-fantastical brick front of the Old Rye Grammar School.

One gets more of an authentic thrill, however, in gazing on the Fletcher House and the Lamb House. With the former one associates John Fletcher, the dramatist, who was born at Rye in 1579; with the latter, Henry James, who lived there from 1898 till 1916. It is called the Lamb House because it was long the home of a worthy local family of that name, one of whom, Mr. James Lamb, entertained here, in 1725, George I., and in 1736 George II. On each occasion Mr. Lamb was Mayor. How he escaped knighthood I cannot understand. In 1725, the house, I imagine, was quite new. It is spacious, plain, and homely. I wonder whether Henry James slept in the panelled bedroom which is still called the George II. Chamber. Although several of the buildings in Rye are three hundred years old and more—some few of them are mediæval—it is the Georgian mode that predominates here as almost everywhere else; and there is nothing more racily Georgian than the George Hotel in the High Street, with its oriel window filled with small panes and over its classical portico a balcony whence, before the borough was disfranchised, the free and independent electors were addressed, or, on Mayoral Day, hot coppers were showered down upon a venal populace. But Rye "is a fine town, with ships in the bay." I know not what memories of it are most likely to abide—of the sunset glow on the clustering red roofs, or the glow at the heart of the forge within the mediæval gateway ("What ho, varlet! shoe me this charger!"); of Clinkum-clankum's merry noise at the anvil, or the cawing of the rooks in the ancient elms. They commingle in "a deep dream of peace!"

DIOGENES.

## THE PLATES.

### *Entrance to Allhallows, Lombard Street.*

ALLHALLOWS was built by Wren in 1694. The porch, with its well-proportioned composite columns, is a characteristic example of bold, dignified design.

### *Two French Panels.*

The panel on the left dates from the first half of the 16th century and is of walnut, carved in relief with the letter A composed of leafy scrolls and enclosed in a circular medallion within a lozenge. That on the right is of a much later period (early 18th century), and consists of a shell amid carving and interlacing scrolls enriched with floral ornament.

### *Interior of Brompton Oratory.*

Brompton Oratory, designed by the late Mr. Gribble, is not unlike St. Paul's, internally, though the scale is much smaller. Mr. Arthur J. Sparrow, the author of this careful perspective, is an A.R.I.B.

### *London House Plans.*

These plans should be studied in conjunction with the article by Messrs. Morris and Parnacott in this issue. The following notes are given in reference to two of them: No. 35, Montague Square, is on the west side, and the illustrations show the plans before the house was adapted to modern requirements. The square is situated off the northern side of Oxford Street, and is easily reached by way of Grosvenor Cumberland Place. It was built between the years 1800 and 1813.

No. 40, Finsbury Square is on the south side, and the illustrations given show the plans before the building was adapted for the purpose of offices. There still remain some of the original cast-iron interiors in the fire-places, with the delicate and refined detail so common about this time. There are also some simple marble chimney-pieces with moulded pilasters. It was built in 1791.

## CORRESPONDENCE.

### *Some Points in Construction.*

*To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.*

SIRS,—There was a slight printer's error, or a slip of my pen, in my letter published in your issue of August 21. The beginning of the second paragraph should have read: "The chemical action of the water, not 'on the water.'" In the first of this little series of open letters on structural detail I suggested galvanizing the ironwork in reinforced concrete. Of course this would entail extra expense to start with, and I am since led to believe that the galvanizing process might render the ironwork brittle. If this is the case the process is out of the question. Tarring and sanding the ironwork might be a desirable substitute. If the iron is to last as long as the concrete, it must become affected by rust; and as rust cannot take place without the presence of moisture in the air, the chief point to be aimed at is to protect the ironwork so as to obtain a non-porous concrete. These ends can be secured possibly in more ways than one—by rendering the concrete with a mastic asphalt, or by using one of the patent damp-proofing materials, if they can be relied on to maintain their proper properties indefinitely. Tar and sanding the ironwork might be ruled out owing to the tar preventing the cement from obtaining a sufficient grip of the metal.

Another little point apart from reinforced concrete that might be of interest to your readers is in relation to brick arches. Perhaps it has not struck all of you that a brick arch is a curved lintel, and, being so, the strength of the arch depends a great deal on the homogeneity of structure. The chief thing to note is that its strength lies more in the mortar and its adherence to the brick than in the bricks themselves. One notes continually when this adherence of mortar to brick has failed, the consequent drop of the arch at the opening of the joint, and extended crack in the brickwork over. This generally arises from bricks having been insufficiently wetted, and the work having been built in hot weather. I should always try and make sure of my arches by obtaining bricks with a double frog in them for arch-work (always building them in cement), so that even if the adhesion of the cement failed, the extra thickness of the cement joint would hold by means of the frogs on to the bricks, and so maintain the arch in its proper position.

EDWARD H. LEGG.





DOORS AND DOORWAYS. XXV.—ENTRANCE TO ALL HALLOWS, LOMBARD STREET, LONDON.  
SIR CHRISTOPHER WREN, ARCHITECT.







Period, First Half of Sixteenth Century (Walnut.)



Period, Louis XIV. (Oak.)

DETAILS OF CRAFTSMANSHIP (SERIES III.). XXXVII.—TWO FRENCH PANELS.

(Reproduced by courtesy of the Director of the Victoria and Albert Museum.)







ARCHITECTURAL DRAWINGS AND SKETCHES. XXVIII.—BROMPTON ORATORY, LONDON.

DRAWN BY ARTHUR J. SPARROW.



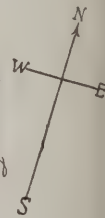
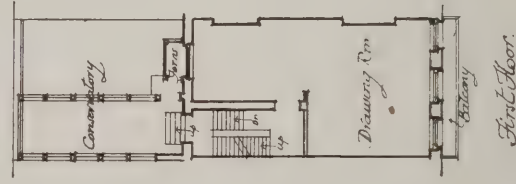
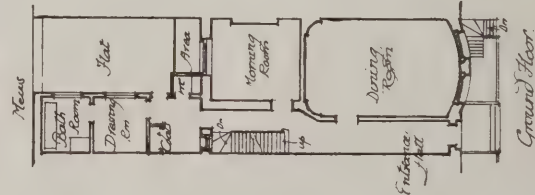
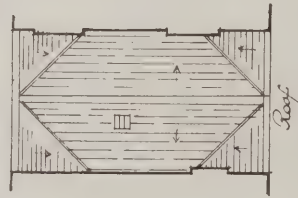
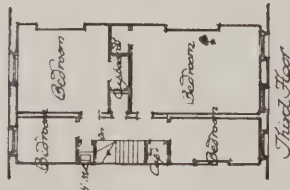
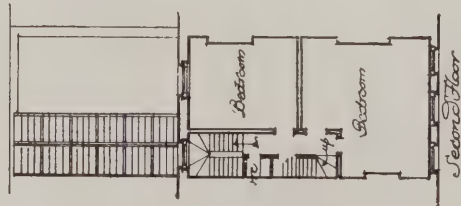


RB

Arch.



35 Montague Square: A.  
Typical example of early  
19th century town house  
planning.



Surveyed by  
G. H. Morris  
F. W. Moncastle  
Architects.

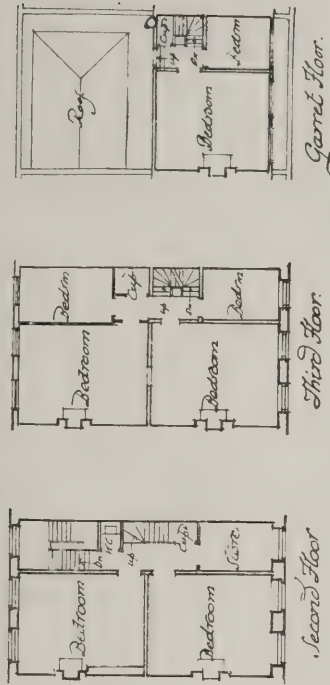


28 of Cumberland  
Place  
An Example of

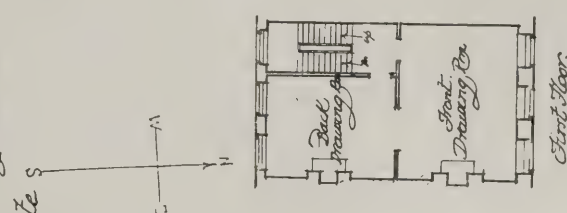
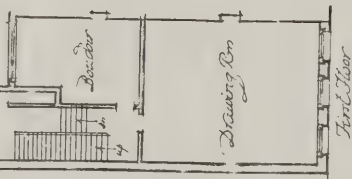
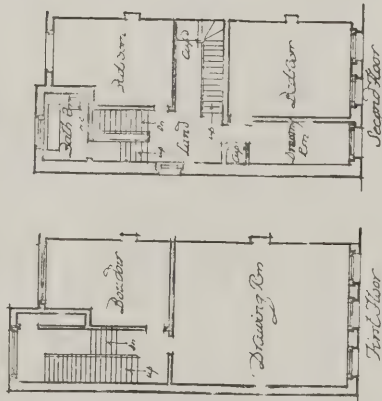
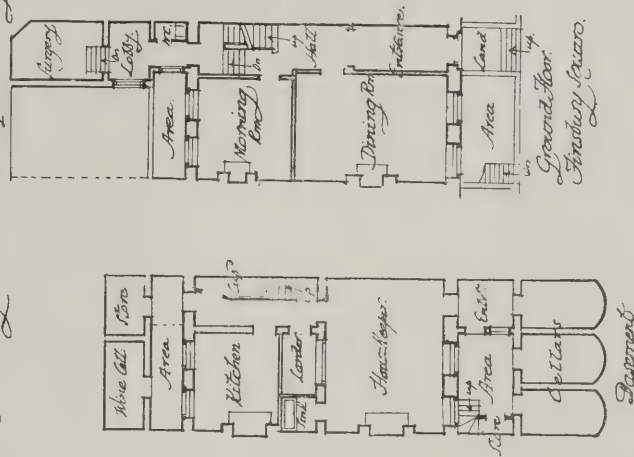
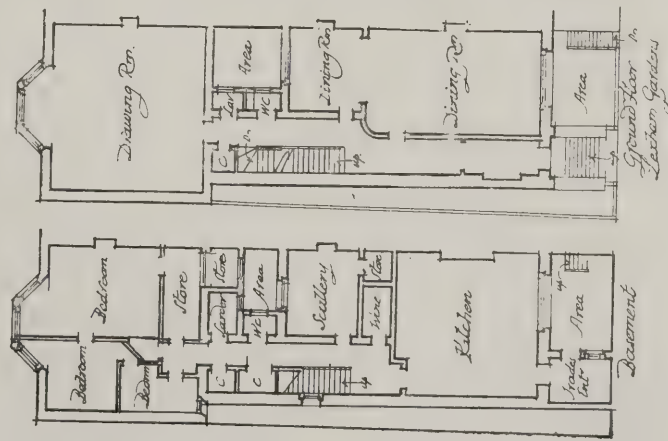
G. L. Morris & H. W. Parnacott Architects.

Basement  
Vaulted Cellar  
Vaulted Cellar

Garret Floor  
Garret Floor



No 57 Latham Gardens  
An example of Terrace  
house planning in a  
garden square. The  
houses built about  
1840. Surveyed by  
G. L. Morris &  
H. W. Parnacott  
Archts.



Surveyed by  
G. L. Morris and  
H. W. Parnacott  
Archts.





# THE SMALLER TOWN HOUSE OF THE LATE EIGHTEENTH AND EARLY NINETEENTH CENTURIES.

BY G. LL. MORRIS AND H. W. PARNACOTT.

*chiefly concerning its plan and structure; some of the difficulties in its adaptation to modern requirements, together with a brief summary of the purposes for which it can be used when converted.*

MUCH as we might desire for a town house that practical and reasonable disposition of rooms which expresses the wants and habits of the well-to-do during the Middle Ages, the conditions obtaining in urban areas make this almost unattainable. The restrictions imposed by a narrow frontage, the necessity for a plan which can, as a rule, only be lighted from the front and back and the means of roof lights, are factors unfavourable to its adoption. The mediæval plan required plenty of ground and frequently light on all sides. It would be outside the scope of this article to set forth the circumstances which led to the adoption of a standard type of plan such as became common in the towns during the eighteenth century and the early years of the nineteenth, but it will be as well to outline the main facts of the development of the mediæval arrangement of rooms and its contribution to the plan of the town house.

## *Development of the House Plan.*

From the earliest settled times down to nearly the close of the sixteenth century, the manor house consisted of a large central hall, with private rooms at one end and the kitchen, with its offices, at the other, and, as long as there was ample space and the lighting could be obtained from all sides, this relation of rooms admirably met the then existing needs. There were exceptions to this general rule. At Chelvey Court, in Somersetshire, the advantage of the fall in the ground from east to west was taken to place the kitchen quarters on a lower ground floor. An interesting account of this house is given in the "Architectural Review," July, 1878. The principal room was the great hall cut off from the kitchen quarters by a screen enclosing the entrance passage. Here the meals were provided and when more or less in common, the family sitting at the dais end and the servitors sitting in the body of the hall.<sup>1</sup> Primarily, considerations of convenience dictated this relation of rooms; and the desire for privacy, display, and a tendency towards symmetry which influenced design in Queen Elizabeth's time appears to have made little or no vital change in this arrangement. The principal living rooms for both family and servants were kept, as at an earlier date, in convenient proximity on the ground floor. It was only towards the end of the sixteenth century that there appeared signs of a definite

alteration; the family apartments increased in number, the great hall ceased to be used for its original purpose, and the servants' quarters became self-contained and separated from the rooms used by the family. The introduction of a basement emphasised this development, and clearly marks a change in habits and customs. The basement idea appears to have come from Italy, and an example of its early use occurs at Barlborough, Derbyshire, in the year 1583. Notwithstanding this example and a few others up and down the country, it would seem that not until well into the seventeenth century did the basement begin to come into general use, and then more particularly for town houses. Even as late as the opening years of the seventeenth century plans of London houses were being designed by John Thorpe without basements. We read in Mr. Gotch's "Early Renaissance in England" a description of these plans: "One house has a hall and kitchen in the front and a parlour staircase and buttery at the back, while a 'vault' is contrived in the centre in a most insanitary manner; the second has the hall and buttery to the front, the stairs to one side and the parlour and kitchen to the back. A third plan (having only 24 feet frontage) has merely an entrance passage and kitchen to the front and a parlour at the back, while the staircase is opposite the front door."<sup>2</sup>

The last arrangement is not unlike that which became eventually the standard plan of the smaller town house of the eighteenth and early nineteenth centuries; with certain variations, and the addition of a basement, this type of plan continued in use until about 1840.

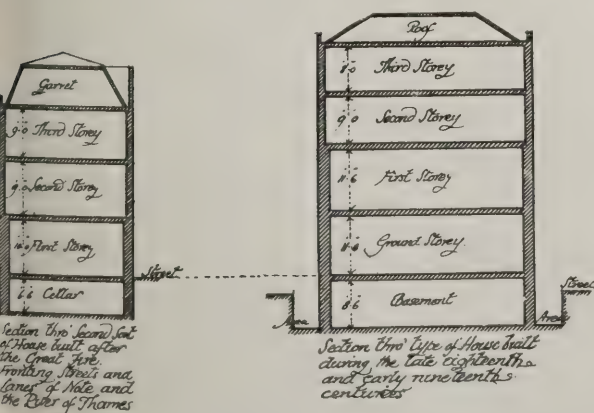
## *Introduction of the Basement.*

Although, prior to Inigo Jones, there were, as we have already seen, examples of the basement house, it appears that we owe to this great architect its general adoption. The basement was utilised more particularly at first for cellars and the less important offices—an unfortunate precedent which gradually developed until the basement became the servants' quarters, and continued to be so used far into the last century.

In Maitland's "History of London" an account is given of the rules and dimensions of the basement houses proposed for the "re-edifying" of the City of London after the Great Fire. There were to be only four sorts; the first, or smallest sort, to be erected in the by-lanes to be of two storeys high, the second to be built in noted streets or lanes, three storeys, the third in the high and principal streets, four storeys, and the height of the fourth or largest sort to be at the discretion of the builder, provided it did not exceed four storeys. In each sort the basement and garrets were to be in addition, the third sort were to have balconies, and the fourth are described as mansion houses for the principal citizens and persons of quality.<sup>3</sup>

In the first three sorts the arrangement of the rooms was probably much the same as that which became customary at a later date, though the height of the rooms was increased and the cellars became the basement. In Maitland's account the cellars

For a full and fascinating account of the mediæval plan we must refer the reader to "Early Renaissance in England," by Mr. J. A. Gotch. There is also an attractive picture in "Ivanhoe," by Sir Walter Scott.



2. "Early Renaissance in England," By J. A. Gotch. Pp. 23.

3. Maitland's "History of London." Vol. I, p. 294.



were fixed at 6ft. 6in. high, while in the later houses eight and nine feet were usual. In comparing the section through one of the standard houses built immediately after the Fire with an early nineteenth-century example (See p. 109), it will be noticed how little change has taken place in the heights of the storeys; the basement, as we have pointed out, has increased in height, but otherwise there is little variation; externally, the treatment of the fenestration in the later buildings gives an impression of much greater height to the first floor storey, but only occasionally is it actually more. This briefly was the traditional town house for more than a hundred years.

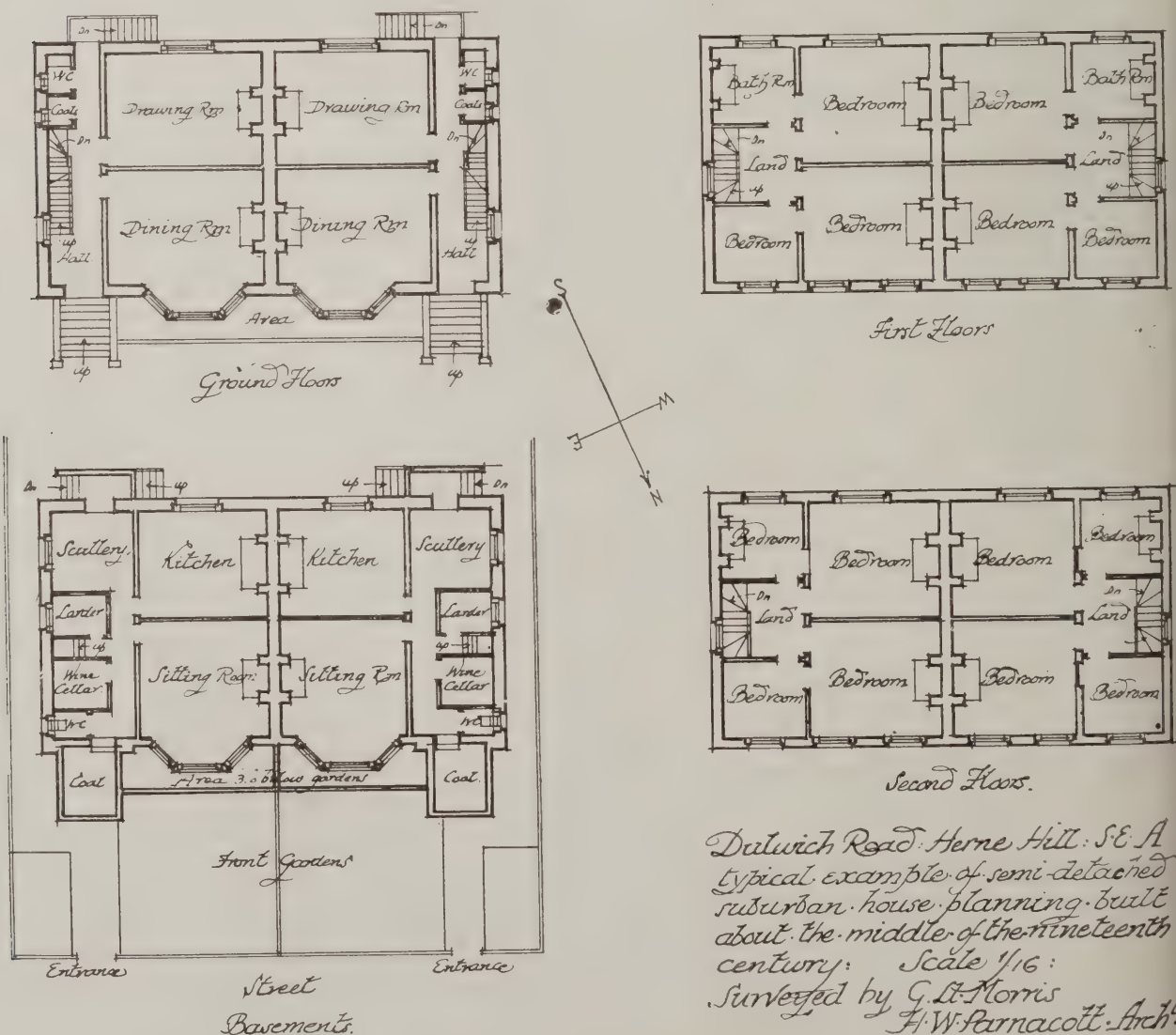
It is true that there were several tentative attempts to break away from this tradition in house-building and its academic expression in architecture and the allied Arts. There was the building of Horace Walpole's Gothic mansion at Strawberry Hill. There were attempts at Gothic furniture by Chippendale, and many other men about the same time borrowed a number of Gothic forms which they grafted upon their classic designs. In other directions, too, as, for example, in some of the contemporary poets and in the novels of Sir Walter Scott, a secret sympathy with the old tradition found expression, and eventually crystallised itself into three definite and closely related movements—the Oxford movement in the Church of England, the pre-Raphaelite movement in Painting, and the mediæval revival in Architecture. Out of the last named sprang the influence which gave birth to the best domestic architecture of the later years of the nineteenth century: Mr. George Devey was the forerunner of a number of

architects who were directly responsible for the final practical expression of a return to the early traditions of house-planning, and in so far as it affected the design and plan of the country house and cottage it had a considerable measure of success. After George Devey there came Phillip Webb, Norman Shaw, Nesfield, Ernest George, and at a later date E. L. Lutyens, all of whom were intimately associated with this movement.

In reviewing its results, the outstanding feature was the return to the mediæval principle of house-planning and an eclectic treatment in the design of the exterior and interior—every style appears to have been drawn upon and the possibility of a new one experimented with.

#### *The Domestic Revival.*

There are many architects to-day who regard the return to an early tradition as a mistake, and hold that the homely traditions of the eighteenth and early nineteenth centuries, the period most closely akin to our own, should have been chosen as the starting point of a renaissance in architecture. On this point of view we do not entirely subscribe, but it should be remembered that this domestic revival was accompanied as it was by a parallel movement in the arts subservient to house design, did not appreciably affect the planning and architecture of the town house. In the main its influence was confined to the moderate sized country house and latterly included the smaller type of house in the garden suburbs. Within these limits results were achieved which gave promise of developing into a movement having for its larger aim the restoration



beauty to modern life. This promise has not been fulfilled, and one of the contributory causes of failure may be found in the almost exclusive attention which was paid by the pioneers of the movement to the planning and design of country houses. This one-sided development undoubtedly originated in the social changes taking place about that time. It was a result of the great commercial activity following the introduction of steam power towards the end of the eighteenth century. Men coming in the factory towns and city centres, who had amassed large fortunes, suddenly discovered that the districts which they had largely created were becoming uninhabitable; they, therefore, began to move their homes from the urban areas to the country districts, the increasing travelling facilities affording an easy means of getting to and from their manufactories in the towns. Copying the example of these commercial magnates there followed many of the more highly salaried professional classes, who started to build new houses in the outer suburban areas, and later still the more highly-paid workman and the poorer professional man found a way of making his home in the semi-suburban neighbourhood or a garden suburb at a considerable distance from his place of occupation.<sup>4</sup> These changes gave a great impetus to house building on the outskirts of the town and in the country districts, and contributed indirectly to an increasing concentration upon the designing and planning of country house and cottage. This was followed by an almost universal neglect of the town house and town house planning, a neglect which has continued to the present day. Again, the renewed interest since the beginning of the European War in working class housing is likely to intensify the tendency to concentrate upon the expansion of the outer districts at the expense of the inner areas. With a few notable exceptions in such wealthy neighbourhoods as Cadogan Square, Chelsea Embankment, and perhaps one or two other districts, there has been little development of town house planning since the first quarter of the nineteenth century.

With these facts before us the question naturally arises as to whether the consideration of the problem of town housing is not long overdue, and as beginning we suggest that the adaptation to modern needs of these late eighteenth and early nineteenth-century domestic buildings might very well be the first step towards a real revival of interest in the whole subject of town house planning. From our experience of these dwellings and a study of the subject from many points of view we are convinced that under proper direction, and with a synthetic approach to the problem, the out-of-date plan of the London house can be transformed to meet the various needs of many classes of the population.

### *The "Standard" House.*

Here we may with advantage turn to a more detailed description of this standard plan and the structure of the building. With minor deviations it varies but little from district to district. The rooms are spacious and lofty on the ground and first floors.

This exodus, so noticeable amongst the well-to-do and those in comfortable circumstances, has its counterpart in the poorer classes. In a passing passage on South London Mr. Charles Booth says: "With few exceptions which bear explanation, South London poverty lightens as we get from the river. There is a deplorably low level in all parts which lie between the sources of work, and this low level tends to perpetuate itself, for no one does anyone rise and 'get a bit decent' than he may be expected to go out to Clapham or elsewhere. Everyone I have consulted has mentioned this centrifugal tendency of the better off, and almost all have claimed that in consequence of it their district is going down." ("Life in London" By Charles Booth. First Series. Vol. I. P. 277.) The course of our surveys we have noted time and again that while the poorer of quiet residential neighbourhoods are in course of "going down" deterioration is much more advanced, not only near the river, but also in the vicinity of railway termini, gas works, large manufactories, and workshops which have been erected on gardens at the rear of houses facing the street, square, and crescent.

The fire-places, windows, and doors throughout are nearly always in proper relation one to another, and the principal staircase as it rises above the lower floors is well lit. The wood and plaster work, particularly in the earlier buildings, is simple, refined in detail, and well placed. Externally, they are severe even to baldness, and such decoration as they have is confined to the entrance door, fan-lights, and the light iron balconies at the sill levels. The external walls are of grey and yellow stock brick for the upper storey, with stone or plaster in imitation of ashlar work for the ground floor storey, strings and cornices, plaster being most frequently used owing to its cheapness. For some odd reason, the source of which we have been unable to trace, this combination of colour in materials is not appreciated to-day as it deserves, red brick and stone being more in harmony with the prevailing taste. It was not so at the period of which we are writing. As early as 1756 Isaac Ware in his book, "A Complete Body of Architecture," writes in quite a different strain. After referring to the "many beautiful pieces of workmanship in red brick," he says, "This should not tempt the judicious architect to admit them in the front walls of buildings. . . . There is something harsh in the transition from red brick to stone, and it seems altogether unnatural; in the other, the grey stocks come so near the colour of stone that the change is less violent and they sort better together. Also," he adds, "when there is no stonework there generally is wood, and this being painted white, as it is commonly the practice, has a worse effect with red brick than the stonework, the transition is more sudden in this than in the other; but on the other hand, in the mixture of grey stocks and white paint, the colours of the brick being soft, there is no violent change." It is not necessary to agree with these remarks on red brick and stone in order to appreciate the other combination. That admirable results are obtained by the use of stone or stucco and stock bricks can be verified in many parts of London. A particularly fine effect may be obtained in the view from Hungerford Bridge, looking towards St. Paul's, and many of the London residential squares offer similar examples.

### *The "Standard" Plan.*

To return to the plan (see illustrations on double-page supplement in this issue), we find this is generally laid out upon simple lines. Unhampered by too much legislation and modern ideas of sanitation the architect in those days had none of the difficulties in planning which attend the provision of lifts, bathrooms, lavatories, heating, ventilation, hot water supply, and other conveniences which are essential to-day. Cleanliness of person was not next to Godliness when these plans were designed, and such provision as was made was even more primitive than could be found in a manorial hall. The powder puff obviated the need of too much water, and the small dimensions of wash-stand and bowl testify to the little importance which our ancestors attached to their ablutions. The "Powder Room" so often described on the plans suggests the extent to which cosmetics were used. Smells were a commonplace and readers of Tobias Smollett will recall their number and variety so faithfully described in his stories. As sanitary science slowly advanced, perfunctory improvements took place. A bath and even other conveniences were added, one of the smaller bedrooms being adapted for that purpose, but the w.c. still retained its unsuitable position, perhaps under the stairs or in some dark cupboard with little or no ventilation, and in many cases was lighted by a borrowed light only. The absence of small apartments, such as are necessary for sanitary



fitments, etc., simplified the plan problem for the eighteenth-century architect. The adoption also of a basement contributed to the simplification of the other floors, as we shall presently see. The front portion of the smaller town house is two rooms deep from front to back, and in the eighteenth century examples a small powder room projected beyond the main back wall. The staircase is parallel with the rear room and the principal rooms are on the first floor; the front one was generally carried across the whole width of the front, and together with the rear room on this floor was the chief consideration of the architect. The ground floor is occupied by the narrow entrance hall and staircase together, with the dining and morning rooms. The best bedrooms were placed on the second floor, and on the third floor the secondary rooms, and above that were those occupied by the servants. The bathroom and housemaids' closet are sometimes built out beyond the rear external wall, with access from the half landing of the main staircase. Above the first floor was a large room at the rear and another large and also a narrow one at the front, the latter being directly opposite the staircase. The approach to the ground floor from the street is frequently by means of a flight of external steps, occasionally rising as much as 8 ft. above the street level. The ground floor varies between this high level and not more than two or three steps above the street pavement. The basement is seldom satisfactory, being badly planned and showing little consideration for those who would have to live in it. It has long dark passages and awkward turnings, and is paved with cold flagstones. The kitchen and offices are widely separated, and there is no ready access to the dining-room. In some houses there is a servants' staircase from the basement, connecting all the floors, but more generally it is under the main staircase, connecting the basement and ground floor only, and in both cases very badly lighted.

#### *Adaptation and Conversion.*

From this brief and general description of the arrangement common to large numbers of these houses, it is clear that in their adaptation and conversion the basement perhaps presents the most difficult problem; in flagrantly badly-planned and badly-lighted examples it may be desirable to dispense with it altogether, but more often it will be found possible to convert it for storage purposes, larders, and some of the less frequently used offices. For example, in the case of flats, the basement can be so arranged that each flat is provided with its store-room and lifts for the tradesmen communicating with the upper floors; accommodation can also sometimes be provided for the caretaker; this, however, will depend very largely on the relation of the basement floor to the street. In examples in which the ground floor in the front is four or five feet above the street level and the ground level at the rear a few steps above the basement floor, the basement can be converted into a flat or it may even be adapted to include both ground and basement floor as a kind of maisonnette. Under these conditions they will be generally in demand as the garden in the rear is a considerable attraction; although this arrangement for the lower ground floors, as they might be termed, has been found to work out fairly well, our own experience suggests that on the whole it is better not to use the basements for this purpose, as they are never very well lit, and the front rooms next the street areas are frequently narrow and overlooked. The outlook on to a blank wall with perhaps a glimpse between the railings tends to make these rooms uninhabitable and depressing. It will be found much better to utilise this floor as

we have already suggested, and, further, the value of the flats above a basement converted into store-rooms, etc., will be considerably enhanced.

#### *Some Practical Points.*

Most of us know by experience how little store-room there is in the newly built flats in and around London; except, then, for this purpose and in exceptional cases for the use of a caretaker or as a flat for living quarters. If this idea is adopted, an increase of light in the basements will hardly be necessary, but in the case of a scheme in which these basements are used for habitable quarters, the additional light required will present a difficulty not easily overcome.<sup>5</sup> The passages can be lined with white glazed tiles to a certain height, and where expensive not prohibitive tiling can be used in the kitchen and scullery, not only to increase the lighting, but from the point of view of cleanliness. In examples of these houses in which the ceiling of the basement front room is almost level with the street and the area too narrow to light it adequately, the front wall of the area may be lined also with tiles whitewashed; this will give a considerable amount of reflected light. Occasionally it may be possible to enlarge the size of the windows, but this will again depend on whether the level of the tops of the windows is below the street level. If above, it is better to avoid this alteration lest it should detract from the appearance of the exterior. Extra light may be obtained in the basement passage by glazing the tradesmen's door and fanlight under the entrance landing and by the introduction of pavement lighting in the latter. The method of increasing the lighting will vary according to circumstances. The flagstones, which are so often found in the passages and other offices in the basement, are better taken up, the floors being relaid with wood blocks or some other form of equally warm flooring. This is generally worth doing, as there is a good market value for flags, which are frequently used for pavements in formal gardens.

The smoky chimney is a problem which often arises in an alteration. It can sometimes be effectively remedied by the insertion of a pipe at the bottom of the interior back, which allows the cold air to pass in and supplements the necessary draught. Indifferent ventilation to the room is one of the chief causes of this defect. As far as possible the existing stack should be utilised, as the addition of a new one will add considerably to the cost.

#### *Kitchen and Lavatories.*

It is desirable to give careful attention to the appointments of the kitchen and lavatories, and this should be planned near to one another so that the outlay on the plumbing and heating is kept as small as possible. It is not always easy to place the kitchen in its most suitable relation to the living rooms, and the position of the existing chimney stacks often settles this question. To build new flues for chimney stacks must be avoided in a reasonable workable scheme. All the necessary sanitary work in connection with sinks, baths, w.c.'s, and lavatories should be planned on the same principle, and the flats so arranged as to bring them over one another.

*(To be concluded.)*

5. Since the above was written we have seen Mrs. C. S. Peel's remarks on the alteration of these basement houses. In an address at the Women's Institute on "The Labour-Saving House" she gives the woman's point of view, and arrives at conclusions concerning the basement very similar to our own. (See ARCHITECTS' AND BUILDERS' JOURNAL for June 26th, 1918, extracts from this address.) A good suggestion is made for the improvement of the lighting of the back room in the basement when it is not possible to enlarge the front room, by the extension of the back room into the garden area by encroaching on the garden at the rear. We think this is an excellent idea and capable of development. The formation of a flagged passage (using the flags taken up from the passages, etc.) with a flight of steps opposite the back-room window and leading up to the garden border suggests quite pleasant possibilities.





## WAR BUILDINGS SECTION

### NATIONAL KITCHENS AND RESTAURANTS.

THE popularity of the National Kitchen movement increases apace. Instituted as a war measure pure and simple, it is rapidly becoming an important factor in our social organisation, and seems likely to remain a permanent element in national life. Local authorities are joining the movement in steadily increasing numbers; and, now that the Ministry of Food has undertaken to lend, free of interest, the capital sum required for setting up national kitchens and restaurants, a further considerable development is to be expected. In view of the present coal shortage, and the difficulties that are likely to be experienced in providing hot meals for all classes of the community during the coming winter, it is felt by the authorities that the provision of National Kitchens in large numbers throughout the country will help the nation to meet the situation that may arise.

Very appropriately, the National Kitchen Division of the Ministry of Food has issued a "Handbook of National Kitchens and Restaurants," copies of which may be obtained free on application to St. Paul's Churchyard, London, E.C. 4. The handbook is an invaluable reference, not only to local authorities proposing to set up National Kitchens or Restaurants, but to all who are in any way interested in the movement commercially; for it contains in addition to a great deal of practical information with regard to administration, rationing, supplies, cooking, recipes, etc., full particulars concerning the preparation of schemes, adaptation of existing buildings, types of equipment, and so forth. It contains numerous photographic views of kitchens that have been set up in various parts of the country, and illustrations of many kinds of cooking apparatus—gas, steam, and electric—and model and other plans. Two reproduced in this issue—one showing the lay-out of a model kitchen, and the other the manner in which Poplar Swimming Bath has been converted to the purpose of a National Kitchen. The following

interesting information is extracted from the handbook.

#### *Preparation of Scheme.*

Such local authorities as have already established National Kitchens have in some instances found it convenient to delegate their powers to the Food Control or other local committees, who, in turn, may or may not establish a sub-committee of their members and co-opt others specially interested in the subject. The duty of the committee is primarily to elaborate a comprehensive scheme to cover the entire area, not that the whole plan need necessarily be carried out at once, but to prevent, as it develops, any overlapping of the districts served.

The question frequently arises as to whether the scheme should consist of separate self-contained kitchens or of a central kitchen with distributing depots. Local circumstances alone will determine the preference. Speaking generally, however, in practice it has been found that the self-contained kitchens, although more costly to provide, are the more suitable and satisfactory from an administrative and cooking point of view.

With good organisation, a self-contained kitchen providing 1,000 portions a day, representing a turnover from £40 to £50 a week, should be made self-supporting, without the help of voluntary assistance. A financially successful National Kitchen, with a large cooking centre and distributing depots, has yet to be produced. The supervision of a central kitchen is more costly than in smaller kitchens, whilst the expense of distribution and the increase of labour add much to the weekly outlay.

#### *Size of Kitchens.*

Much consideration has been given to the size on which kitchens in the larger urban areas should be planned, with the aim that they should become self-supporting without the aid of voluntary help. Experience in London has shown that it is

difficult to make kitchens pay their way if serving less than one thousand portions a day, and this is recommended as the minimum standard to be adopted in populous areas.

Space should be provided for additional equipment, enabling the business to be increased, should the necessity arise, to 2,000 portions daily. Up to the present time this has been found the maximum figure attained by any one centre, either kitchen or depot. There are signs, however, in populous districts, where a restaurant is attached to the kitchen, that these figures may possibly be doubled, and in such cases an equipment of 2,000 portions can be installed at once, with room for additional apparatus capable of dealing with from four to five thousand portions. If a kitchen of this capacity does not satisfy the requirements of the district it will be better to start a second rather than go on indefinitely enlarging the first.

#### *Adaptation of Existing Buildings.*

In selecting a site for a kitchen, an existing structure should, if possible, be utilised, as the cost and scarcity of material and labour at the present time almost prohibit the erection of new buildings. Additional expense must add to the prices charged for food, which may soon be increased beyond the cost of supplying meals at home, with a consequent heavy fall in the number of customers. Buildings supplied with steam give a great advantage to kitchens, as the additional steam required is produced at an infinitesimal cost; it offers the best means of cooking vegetables and puddings, and saves the expense of putting in a hot-water service. In the metropolitan boroughs of St. Pancras, Poplar, Holborn, and Hammersmith, kitchens have for these reasons been planned in connection with the public baths, where an abundant supply of steam is available. Room in these buildings can also generally be found for a restaurant, which is a great convenience to children whose



parents are absent for the day, as well as to workers whose occupation takes them a distance from their homes.

If public baths are not available, use may be made of public assembly halls, parts of public libraries and town halls, or almost any empty building that can be obtained. For the use of the 1,000 to 2,000 portion kitchen, many shops are sufficiently convenient, as the floor space does not exceed 40 ft. by 40 ft. Good examples of such kitchens may be seen at Wimbledon, Beckenham, and Westminster Bridge Road. It is better, if possible, to choose a corner site, so that an entrance and exit may be provided. As sites for smaller kitchens and depots, the choice of shops or private houses is almost unlimited. The principal thoroughfares have the great advantages of giving publicity to National Kitchens, which should be placed as near as possible to the centre of the district to be served.

Choice of Equipment.

In order to assist local authorities or approved committees in deciding upon the necessary apparatus, a schedule of standardised types of equipment has been

prepared, suitable for kitchens catering for 1,000 and 2,500 portions per meal. It is not feasible to put forward a hard and fast recommendation suitable to all cases, as local conditions of feeding and customs may have an effect on the amount of apparatus installed. For instance, some districts may require more steamed or boiled puddings, or more fish or vegetables than others, and such conditions would necessitate a slight readjustment of apparatus.

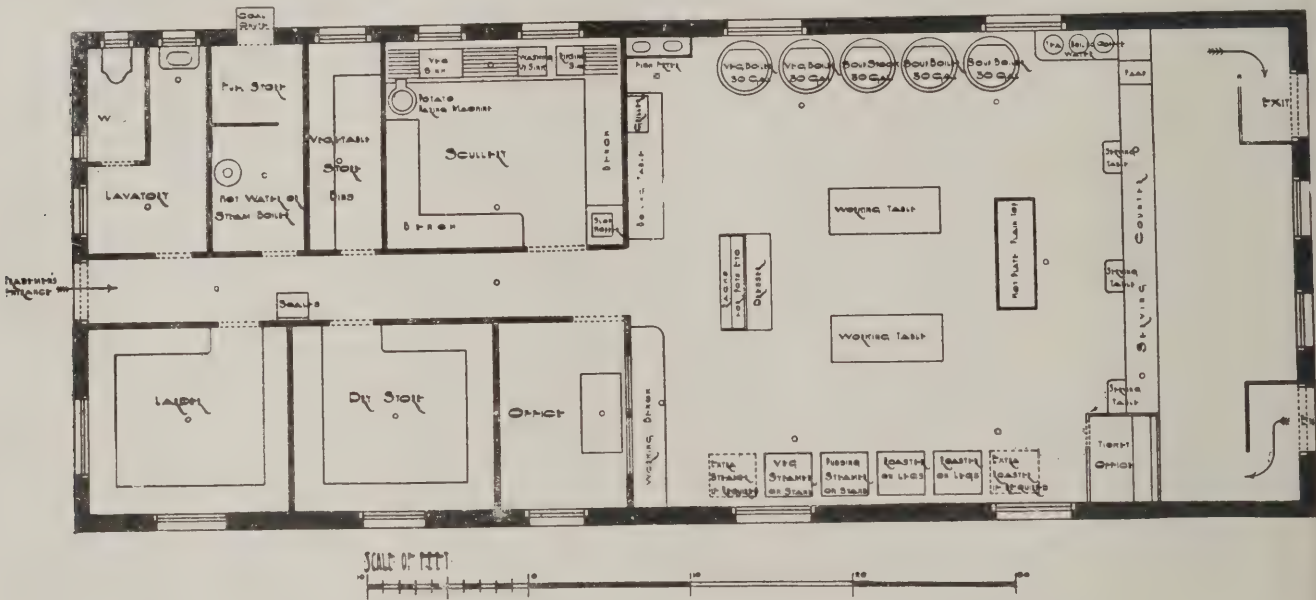
In selecting the types of apparatus which should be recommended consideration is given to the fact that female labour will be generally employed, which renders inadvisable the installation of large units.

It may be as well here, perhaps, to make a short comparison of the relative merits of steam, gas, coal, and electricity for cooking purposes. Steam is by far too valuable to be neglected in any kitchen, and for cooking vegetables and puddings is quite indispensable. If there is no central supply from which it can be tapped, there are plenty of good automatic steamers made, with gas as the generating agent. When steam already exists on the premises, the soup and stock boilers, the

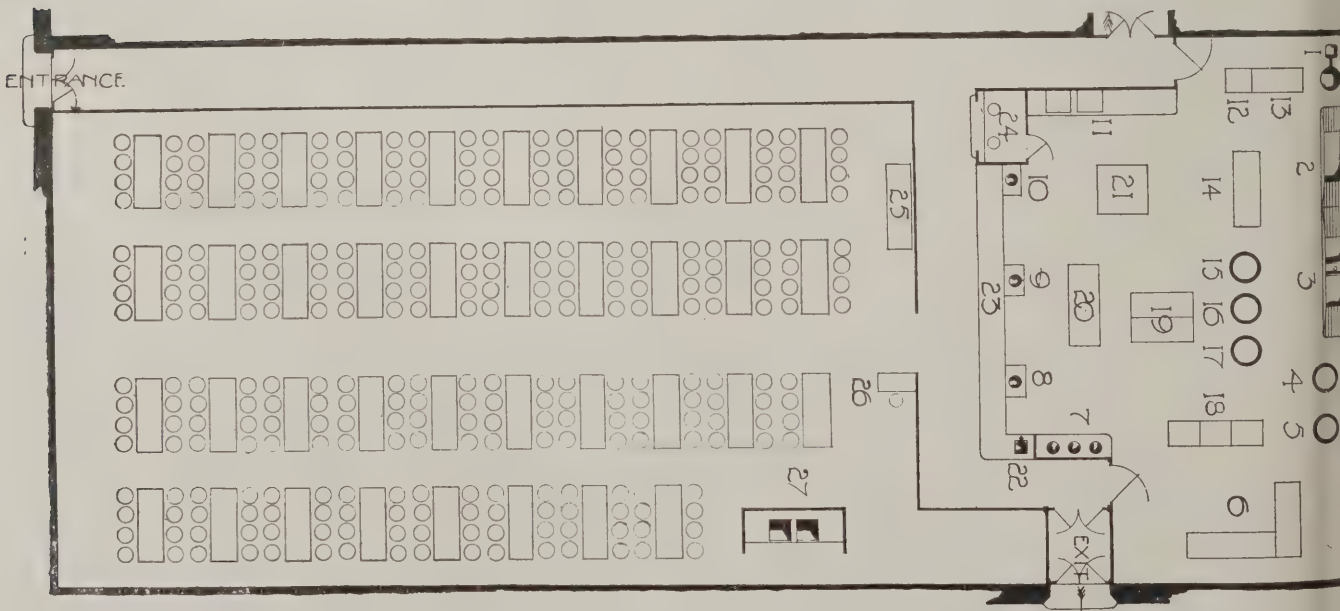
hot closet, and the hot-water supply can, with economy, be heated by this means.

At present the last word can hardly be said on electric cooking. If supplied for not more than a penny a unit, it is a very satisfactory agent for roasting, the loss of meat in weight is less, basting is less frequently required, and a pleasant nutty flavour is given to the joint. The cost of current, however, becomes excessive unless careful attention is given to turning off switches to low, medium, or high, according to the directions given. An electric griller, when wanted for a few minutes at a time, is very convenient, and an electric deep fryer is also recommended. Heating water or soup by electricity in kettles or stock-pots is slow and expensive, unless the utensils are specially constructed for the purpose. Whenever electricity cannot be supplied for a penny or less per unit, it will be found better to use gas if it can be obtained at not more than three shillings per 1,000 cubic feet.

For small kitchens, where roasting, boiling, and hot water have to be provided in a narrow space, a coal range will serve most purposes; steaming on a small



PLAN OF MODEL NATIONAL KITCHEN FOR 2,000 TO 3,000 PORTIONS.



PLAN OF POPLAR NATIONAL KITCHEN AND RESTAURANT (SEATING ACCOMMODATION 300).

can be carried out on the hot plate superimposed dishes. The boiler remains the most economical means for heating hot water for general purposes, and one of the many boiler constructors now manufactured is an indispensable part of kitchen equipment, as it not only gives a good supply of hot water, but is a very convenient method of disposing of dirt and soot.

#### *Description of Model Plan.*

The model plan is for the information of local authorities, and to assist in preparing suitable schemes for National Kitchens. It is not expected that the plan will be used in cases where buildings which have been designed for other purposes are to be utilised as kitchens, but, where possible, the general arrangements shown would be followed, as they are based upon experience.

The model plan shows a detailed scheme of a complete self-contained cook-kitchen, arranged for the sale of the food at the serving counter in the kitchen. The meals cooked on the premises, with the arrangements shown on the model plan, the whole of the stores, the cooking kitchen, counters, office, storerooms, etc., would at all times be under the eye of the person responsible for the kitchen.

The plan provides for:—

- (a) Tradesmen's entrance.
- (b) Storerooms and larder to be fitted with tables, shelving, bins, and meat hooks, etc.
- (c) Scullery for the preparation of vegetables, washing-up, and work generally which is better away from the actual kitchen. Vegetable sink, two sinks for washing-up, and a slop hopper are provided with ample bench space for various purposes.

The floor should be of concrete or hard material so that it may be thoroughly cleaned out.

The position of the potato machine is given. This could be operated by electricity or by hand-power.

Hot water should be provided to all uses, also one tap for draw-off for other purposes. Cold water should be provided to vegetable trough, to the potato machine, and carried forward to each counter, and to the automatic cisterns for kettles and steamers in kitchen.

The cooking kitchen is shown with equipment to provide from 2,000 to 3,000 portions.

**APPLIANCES.**—The appliances are:—Three jacketed and two single-cased stoves, two steamers, two ovens, boiling water with griller and small oven, and a serving-table with hot closet under same. A double fish frier is also provided.

A coffee apparatus is also shown for use in kitchen when tea and coffee is to be provided.

Single-cased boilers and the steamers conveniently arranged at the ends nearest the vegetable kitchen, and the stoves are placed at the end nearest the serving counter, so that they may be used for keeping the food warm in addition to cooking it. The boiling table with griller is placed at one end and should not be more than 2 ft. 9 in. high. The serving counter is placed in the best position for use in connection with the serving of the food. It should not be more than 2 ft. 9 in. high. The ticket office is provided at the end of the counter near to the entrance.

**FITTINGS.**—The serving counter should not be more than 2 ft. 9 in. high, and not

more than 2 ft. wide for easy serving. The top should be covered with white oil-cloth, or linoleum, finished flush with aluminium, tin, or brass counter nosings. The inner side of counter should be fitted with open shelving. Three small "pull-out" tables for serving should be arranged as shown in the plan. These would be placed under the counter when not required. This arrangement is better than a table with "lift-up" flaps, as accidents are less liable to happen. Sufficient clearance should be left under the bottom shelf so that the floor can be washed underneath same.

The tables should be strong, of the sizes shown on the plans, with shelving underneath as described for counter, and may be fitted at one or both ends of each table with a cook's cupboard, with three adjustable shelves. This type of table has proved very useful in cooking kitchens. A similar cupboard may be useful in the serving counter.

A dresser is shown fitted with racks for cooking utensils.

Two small portable tables are useful for a variety of purposes. Care should be taken not to provide more shelves than are necessary, and it will be found that shelving as outlined above will be ample for all requirements. Unnecessary shelving is a nuisance, and tends to keep the rooms untidy.

A wooden rail or pair of strong wires across the whole length of the counter should be provided for hanging notices, menus, prices, etc., the height to be about 7 ft. 6 in. from the floor.

(e) An office is provided for keeping the necessary books and papers.

(f) Boiler for providing hot water is shown in convenient position. A fuel store is arranged adjoining same.

(g) Cloakroom and lavatory accommodation is also provided for the staff.

(h) The entrance and exit should have draught screens as shown.

All fittings should be clear of the floor so that the whole of the floor can be washed (plain tile red linoleum is recommended for wooden floors).

**INTERNAL ARRANGEMENTS.**—The model scheme is also designed to enable the public to see the whole of the kitchen, and so impart confidence to the customers.

Windows on both sides of the kitchen should be made to open so as to provide thorough ventilation. All windows in other rooms should open for ventilation, and cross ventilation should be provided in all cases.

Rooms with open roof and top lighting, in addition to window lighting, would admirably meet the requirements of a National Kitchen, and in those cases the eaves should be at least 9 ft. high. For rooms with flat ceilings the eaves should be at least 11 ft. high.

The drains must be satisfactory, and none should be permitted inside the buildings. The walls and ceilings should be well painted or lime-washed, and maintained in good condition.

The actual size of the storeroom would be decided in accordance with the arrangements made by local authorities for the delivery of raw foods. Generally speaking, one week's supply should be kept on the premises, except in the case of meat and fresh vegetables, for which daily deliveries might conveniently be made.

It will be remembered that London's best-known and perhaps most popular kitchen—the N.K. Restaurant in New Bridge Street, Blackfriars—has already been illustrated in this journal (see issue for August 21).

## THE COMMITTEE ON WAR DAMAGE.

A meeting of the Executive Committee of the above was held in the Hall of the Brewers' Guild, E.C., on Wednesday, August 21, the President, Sir Forster Todd, Lord Mayor of York, in the chair. The letter of July 23, from Mr. Bonar Law, in which he replied to the request that he would receive a deputation from the Committee, was further considered. Mr. Bonar Law had written to the effect that the scheme introduced by the War Cabinet on November 5 last was, "in the opinion of the Government, the most satisfactory solution of the question that could be found, and nothing has happened which would justify any other view. In these circumstances I do not think that a deputation would be of assistance."

On the motion of Mr. Mark H. Judge, Chairman of the Executive Committee, seconded by Deputy Sir Robert H. Rogers, the following resolution was passed unanimously: "That whereas the corporate bodies forming the Committee on War Damage include 842 municipal authorities having a population exceeding thirty-two millions, we are of opinion that the Chancellor of the Exchequer cannot have given due weight to the representative character of the Committee when he said in his letter of the 23rd ult., 'I do not think that a deputation would be of assistance.' In any case, we hereby renew our application to be received by Mr. Bonar Law, feeling assured that a conference between the Chancellor of the Exchequer and the Committee is eminently desirable in the public interest, seeing that it is of the utmost importance that the question at issue shall be so settled as to prevent it being a bone of contention at the next General Election. In support of our request we submit the following:

"The Committee on War Damage are contending for the principle that all citizens injured in person or estate by air raids or bombardment should be entitled to compensation from national funds. The Prime Minister expressed full agreement with this when he received the Committee on July 13, 1917, but, as yet, it has only been given effect to in a very limited degree. The concessions made since the constitution of the Committee are: 1, A reduction of 50 per cent. on the premium for insurance; 2, Compensation, by way of grace, for personal injury in certain cases; and 3 (since July 13, 1917), Compensation for damage to property in certain cases up to £500, but only for damage subsequent to August, 1917, that is after three years of the war. These concessions in no way meet the case, and while we welcome them as some recognition of national responsibility, they are so unsatisfactory that the question cannot be allowed to remain where it is. There is no principle in a scheme which fixes upon an arbitrary sum in hundreds, when the damage is measured by thousands, and leaves out of account all damage exceeding that amount, especially when damage inflicted prior to September, 1917, is entirely ruled out, and we therefore feel that we are entitled to ask the Chancellor of the Exchequer to reconsider with our deputation the principle of full national responsibility as set out in our memorial." [This memorial draws attention to the Riot (Damage) Act, 1886, which recognises the just claims of the individual.]

It was unanimously resolved to adjourn the question of arrangements for the next meeting of the General Committee.



## COMPETITIONS.

### *Scottish Housing Schemes.*

The Treasury have now conveyed to the Local Government Board for Scotland their approval of the conditions governing the architectural competition about to be promoted by the Institute of Scottish Architects under the authority of the Board. The competition is open to any British subject and is divided into three sections. The first two sections are for lay-out plans accompanied by designs of (1) two-storey cottages and flats, and (2) tenements restricted to three storeys. The third section is for the design of cottages for rural areas without a lay-out plan. The accommodation to be provided in the various types of houses comprised in all three sections varies from a living room, scullery, and two bedrooms, to a living room, scullery, parlour, and three bedrooms. Intending competitors in Sections I. and II. will be duly furnished with plans of selected sites (upon which their schemes have to be based).

Premiums to the total value of £725 will be awarded by the Committee of Selection for the most meritorious designs.

As the result of the competition, a panel of architects whose designs are approved by the Committee of Selection will be formed, and a list of the names on the panel will be furnished to local authorities preparing post-war housing schemes, with a recommendation from the Board that architects on the panel should be appointed to advise in carrying out such schemes.

The conditions of competition—which will be issued *in extenso* at an early date—reflect concisely the official mind as to the nature of after-the-war houses. In due course public notice will be given as to where copies of the conditions may be obtained.

## AN INDEX OF FRENCH MANUFACTURERS.

Information has been received that the "Office National du Commerce Extérieur" Department of the French Ministry of Commerce and Industry is compiling an official index of all firms in France engaged in export trade, for the purpose of answering enquiries received as to names of French manufacturers or suppliers of particular goods. The Index will consist of cards classified according to the business of the firms, and in order to defray the cost incurred in connection with this undertaking, firms desirous of having their names and products recorded are required to pay a nominal fee of 5 francs for each entry in the Index.

The "Office National du Commerce Extérieur" in inviting firms to subscribe to the Index states that up to May last it had dealt already with more than 52,000 enquiries for the names of French producers.

It may be of interest to manufacturers in the United Kingdom to add that an index or directory of British and Irish manufacturers is in process of compilation by the Department of Overseas Trade for official use only in the department and by His Majesty's trade commissioners, consular officers, and other correspondents of the department abroad in dealing with enquiries which they frequently receive for the names of makers or suppliers of goods in this country for delivery either now or after the war. Further information with

regard to its objects and scope can be obtained on application to Department of Overseas Trade (Development and Intelligence), 73, Basinghall-street, E.C.2.

## SOCIETIES AND INSTITUTIONS.

### *Northern Architectural Association.*

The Officers and Council of the above Association for the Sixtieth Session, 1917-18, are as follows:

President, R. Burns Dick, F.R.I.B.A.; Vice-President, C. S. Errington, F.R.I.B.A.

Hon. Treasurer, J. T. Cackett, F.R.I.B.A.; Hon. Librarian (pro-tem.), F. N. Weightman, Licentiate R.I.B.A.; Hon. Secretary, H. L. Hicks, A.R.I.B.A.; Assistant Hon. Secretary, C. I. Greenhow, Licentiate R.I.B.A.

Council.—\*G. T. Brown, F.R.I.B.A.; \*H. C. Charlewood, F.R.I.B.A.; F. E. Dotchin; M. G. Martinson, Licentiate R.I.B.A.; \*W. Milburn, F.R.I.B.A.; W. Milburn, jun., A.R.I.B.A.; \*J. Oswald, F.R.I.B.A.; \*A. B. Plummer, F.R.I.B.A.; \*F. W. Rich, F.R.I.B.A.; A. K. Tasker, A.R.I.B.A.; H. Wright, F.R.I.B.A.

Hon. Local Secretary for Sunderland, \*J. Hall, F.R.I.B.A.; Hon. Local Secretary for Durham, \*W. T. Jones, F.R.I.B.A.; Hon. Local Secretary for South Shields, \*J. H. Morton, F.R.I.B.A.; Hon. Local Secretary for Darlington, \*W. J. Moscrop, F.R.I.B.A.; Hon. Local Secretary for Carlisle, \*G. D. Oliver, F.R.I.B.A.

\* Members marked thus are ex-officio Members of the Council.

The Report of the Council for the Fifty-Ninth Session states that the Members' roll is now as under, the figures for the Session 1916 being given for comparison:

	1916	1917.
Members .....	73	71
Associates .....	73	73
Students .....	30	29
	176	173

Mr. G. Dale Oliver, of Carlisle, has been elected a Member. Two Members and one Student have died, and one Member has resigned during the Session.

The Council regret to record the deaths of the following Members: Mr. James Bruce died in February, 1918. He joined the Association as an Associate in 1892, and was elected a Member in 1897. He acted as Hon. Librarian since 1907, and always took a great interest in that work and in the welfare of the Association.

Mr. G. P. Boyd died of wounds received in France in September, 1917. He joined the Association as a Member in 1914.

Mr. W. R. Isherwood was killed in action in France on September 6, 1917. He joined the Association as a Student in 1913.

The Council have heard with regret that Mr. W. A. Chamberlin, who was a Member of the Association from 1900 to 1906, and who was at one time Assistant Honorary Secretary, was killed in France in 1917, while serving in the Canadian Forces.

The Council have offered their congratulations to Major W. W. Nimmo and to Lieut. S. W. Milburn on their receiving the Military Cross, and have expressed their sympathy with Mr. H. St. J. Harrison, who has suffered from shell-shock, and with Messrs. G. E. Charlewood and F. R. Stobart, who have been wounded, and Mr. G. T. Brown, jun., who has been gassed.

## CONTROL OF IMPORTED SOFTWOOD TIMBER.

It has been represented to the Controller of Timber Supplies that merchants, to whom rations from the national stock have been allocated, are in some cases refusing to accept orders from consumers, with a view to distributing the allotment among their various customers or otherwise holding it back from purchase by persons holding permits. This course is strongly to be deprecated. The Controller wishes to point out that merchants are now acting in effect as distributors of the national stock, and their failure to supply holders of permits, whose unsold rations are available, can only result in injury to the national interest, as well as to those of the timber trade. Refusal to sell to a permit-holder on the part of a merchant able to supply would afford ground for the withdrawal of the merchant's ration. In the event of undue delay by the trade in the supply of timber to a customer holding a permit, the Controller might find it necessary to supply direct from the national stock.

## NEWS ITEMS.

### *Memorial to Walsall V.C.*

A scheme is in hand for the erection at Walsall of a memorial to the late Seaman John Henry Carless. It is to take the form of a statuette or bust on a pedestal.

### *A Liverpool Peace Cross.*

Mr. Arthur Earle, a prominent benefactor of the new Liverpool Cathedral, has given £2,000 for the erection, at the close of the war, of a granite peace cross in the precincts of the cathedral, or some suitable adjacent spot. It is proposed that the space surrounding the cross shall be used for religious meetings of any denomination, political meetings to be excluded.

### *Land for Portsmouth Housing.*

Portsmouth Corporation have been offered for their proposed garden city scheme a site on the southern slopes of Portsdown Hill extending down to the harbour. For the land, which consists of five hundred acres and immediately joins the borough, its owner, Capt. Thistlethwayte, is asking £100 an acre. Inside the borough land is fetching at present ten times as much.

### *Lincoln Housing Scheme.*

Lincoln Corporation having obtained permission of the Ministry of Munitions to build a number of houses in the city, three building firms, under the title of Associated Lincoln Builders, have received instructions to erect 200 houses on the Wragby Road site, secured by the corporation a few years ago with a view to laying it out as a garden city. It is hoped to gain permission to erect a further 200 dwellings.

### *A Student's Sketch Book.*

The Department of Civic Design at Liverpool University, proposes to publish (after the war) a sketch book containing a record of the work executed by Gordon Hemm as a student. It will be divided into the following sections: (1) Architectural designs, (2) measured drawings, (3) civic design, (4) sketches, and the price will be 5s. Prefaces will be written by Sections 1 and 2 by Professor C. Reilly, to 3 by Professor L. P. Abercrombie and Mr. Thomas H. Mawson, and to 4 by Professor S. D. Adshead.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

SEPTEMBER 11, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1236.

## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in assisting the efforts of the Government Paper Controller to eliminate waste. This they may do in one of two ways—*

*1. By placing a direct subscription for the Journal with the Publisher, or*

*2. By placing with a newsagent an order for its regular delivery.*

WORK that private persons cannot or will not undertake, although it must be done, becomes a duty of the State. How to identify such work is the main difficulty of the situation. For the Government, however, it is comparatively easy to ascertain what private enterprise cannot do. A list of Government prohibitions settles the matter. Private enterprise may not build, for example. Subject to certain more or less irksome restrictions, it may continue to publish as long as the paper-supply holds and the defence of the realm is not imperilled; it can hardly be expected to publish at a loss, whereas it would seem that the various Government publishing departments can cheerfully face that risk. Some of them are doing it rather extensively, not to extravagantly, but often quite opportunely and usefully. It is conceivable that there is a public who will buy cheap pamphlets from the Government because such publications seem likely to speak with authority, and not as the scribes. A series of pamphlets projected by the Ministry of Reconstruction has for its general title, "Reconstruction Problems," and will deal with "The Aims of Reconstruction," "Housing in England and Wales," housing in Scotland, town planning, village problems, and other subjects. Of these the two first-mentioned are before us. That on the "Aims" has been compiled from speeches made by the Minister of Reconstruction, and its object is to outline in general terms the problems of his Department. How the pamphlet on housing was engendered is not stated. This pamphlet, unlike the others, reads rather too distinctly to be a mere boiling-down of political speeches, although it cannot be said to be entirely free from the taint of propagandism. There has been nothing too much of this kind of pamphleteering. One can never feel quite sure that a Departmental publication is perfectly "straight." It would be rather useful to know how to discriminate between the genuine official document and the propagandist or ing pamphlet.

Formerly, official publications could be depended on as much for their honesty as for their dulness. The Blue Book was too dowdy to be wicked. With change of form comes change of character. Official publications are no longer the vehicles of "solid blocks of stodgy facts." They are often written in a "bright and attractive" style of the professional advertisement-writer, the cunning artist in words who makes it clear to the simplest mind that the one extreme need of civilised life is somebody's soap, or pop, or mind-muscle exerciser. There is, of course, need to go to either extreme; but it is very difficult to strike the middle course, and each of these two

pamphlets inclines now in the one direction, now in the other, is now rhetorical, now dull; but in each instance propagandism is the dominant note. This was perhaps inevitable. On the subject of reconstruction the public mind is still very hazy. It could not know otherwise than vaguely requirements that the Ministry of Reconstruction was formed to ascertain; and in setting forth the results of the inquiry so far as they have been gathered, and in formulating the aims of reconstruction, the Ministry may well be excused a certain fervour of assertion and appeal which, while it is a departure from the stereotyped official style, need not be altogether deprecated on that account, although it must be admitted that the older and balder method was the safer from partisan colouring; your Blue Book being, indeed, entirely colourless, save for its wrapper. What is particularly gratifying about the "Aims" set forth in the pamphlet carrying that word in its title is that they are conceived in the new spirit, which recognises that the idea of reconstruction, "of a simple return to pre-war conditions, has been gradually supplanted by the larger and worthier ideal of a better world after the war."

Reconstruction, it is further said, with unofficial sanction, "has to give shape and satisfaction to the strong feeling which has arisen in all sections of the community, among men and women of the most widely differing opinions and outlook, that there is much to be ashamed of when we look back to the conditions of July, 1914, and that out of justice to the living and out of reverence to the dead, we are called to rebuild the national life on a better and more enduring foundation." Quite rhetorical, but nevertheless sound at the core. Leaving justice and reverence out of the question, as savouring overmuch of the trite platform manner, it may be freely admitted that the war came as a solvent of many discontents, possibly as a great cleansing and purifying influence. At all events, it took almost everything out of its ancient grooves, and created the largest possible opportunities for resurvey, reassessment, readjustment, new direction. It is to the credit of the Ministry of Reconstruction that they see all this. It may be remembered that the Ministry, which superseded the older Reconstruction Committee of the Cabinet, was established by Parliament in the August of 1917, and that the work assigned to it is "To consider and advise upon the problems which may arise out of the present war and may have to be dealt with on its termination." It is not an executive department: its business is to make inquiries and researches. Builders and builders' merchants should make use of it by putting before it any matters that require attention. According to the pamphlet, the problem of reconstruction begins with shipping, and that is a subject on which builders' merchants and others concerned in overseas traffic should be in a position to offer much valuable advice. Unfortunately the pamphlet throws but little light on it. Having looked the matter boldly in the face, it carries on in much the same way with raw materials, allocation of materials, transport, demobilisation and reinstatement, industrial organisation, joint industrial councils, interim reconstruction committees, working conditions, rural development, health, housing, education, finance. Of course, adequate treatment of all



these subjects could not be expected in a sixteen-page pamphlet of which the avowed object is simply to enumerate the aims of the Ministry, and incidentally to indicate the spirit in which it is pursuing them.

If the pamphlet offers but little information, it conveys many useful hints. In the matter of transport, for instance, we are reminded that the war has directed special attention to the possibilities of light railways; that our canal system has been too long neglected, and that civil aerial transport will be a factor to be reckoned with after the war. Other items worth noting under this heading are that the end of the war will find an immense amount of material of all kinds in the hands of the Government, including tens of thousands of motor vehicles; and that the highways of the country have fallen into such disrepair during the war that their repair is estimated to cost sixty million sterling. Presumably, the Government will get rid of its surplus stock of motors before announcing an increased tax on them to cover the expense of repairing the roads. In the course of their inquiry into this matter, the Ministry should take due cognisance of the iniquities inflicted by municipalities on builders in the matter of cartage. If it be admitted that extensive cartage will cut badly a soft country road, and that some compensation should be made to the authority put to the expense of repairs, it seems to follow that the local authority should not be put to the enormous expense of maintaining roads on which motor traffic has doubled and trebled the wear and tear. We are still of opinion that, as we have often said before, the maintenance of the highways should be the care of the Government; and the cartage of materials on roads should not be heavily penalised, as it often is.

Pamphlet No. 2 of the Reconstruction Problems series, dealing with "Housing in England and Wales," is clear in statement and sound in doctrine. Houses are to be well built, to have sufficient accommodation, have sufficient light and air and not be built in long monotonous rows, be provided with sufficient open space not merely for health but for amenity. There must be adequate gardens, and in the plans and in the lay-out of the land regard must be had to beauty as well as health. "Not merely should the planning of the new houses and their surroundings satisfy this high standard, but existing houses that are defective or insanitary should be made thoroughly fit or be demolished." "High standard" is good; but what a satire on any standard that happens to be lower! And how superfluous this counsel ought to be in a community that is putatively civilised: "The crowded slum areas and narrow courts which disfigure so many of our towns and have caused so much disease and suffering should be cleared or properly restored." Immediately after this sentence comes the comment, "All this may sound ideal." . . . ! We should be poignantly sorry to think that it did. It sounds very pitiful, however; and even more painful is the confession that, according to the census of 1911 one-tenth of the population were living under overcrowded conditions. Further, it must be remembered that the standard for overcrowding adopted by the census authorities was a low one. People are only regarded as being overcrowded if they are living more than two to a room, including living-rooms. "Thus, if a cottage or tenement consists of two bedrooms and living-room, it is only regarded as overcrowded if there are more than six persons living in it. Further, children under fourteen are only counted as half a person." One is

tempted to ask, How many children make a half person? But the question would convey a flippant impeachment of official grammar, and such trifles sink into utter insignificance in face of the appalling facts chronicled in good faith if in bad English.

About labour-saving devices in the house many hints might be gleaned from casual observations of novelists. Take for instance the wondrous house described by Mr. Arnold Bennett in his divergent history of "The Card." Denry (short for Edward Henry) had notions, or he would not have been correct "card," and his fertility in them was employed pretty freely in the house he built. It was "a squarish block of a building." On going to it for the first time Denry's mother observed that it had a "funny" doorstep—marble, and quite simply kept clean. "'You just turn this tap at the side. You see it's so arranged that it sends a flat jet along the side. Stand off a second.' He turned the tap, and the stone was washed pure in a moment." "How is it that the water steams?" asked his mother. "Because it's hot," said Denry. "Did you ever know water steam for any other reason?" The whole house was heated by steam. There were no fireplaces, no grates to polish, ashes to carry down, coals to carry up, mantelpieces to dust, fireirons to clean, fenders to polish, chimneys to sweep," and there was a gas stove in every room for emergencies. Every knob in the house was of black china—"never shows dirt, but if you should take it into your head [not to use a knob, but the notion] to clean it, you can do it with a damp cloth in a second." Denry's notion of black knobs is not more original than his other details, and is much less exhilarating. To encourage black knobs at every turn, and to be aware that the chief virtue is that they do not show the dirt which should not be on them, would be a most depressing experience. Their installation puts a premium on sluttishness.

A few more items in Denry's early example of a labour-saving house are: "No portage of water anywhere in the house; the water came to you, and every room consumed its own slops. The bedsteads were of black enamelled iron, and very light. The floors were covered with linoleum, with a few rugs that could be shaken with one hand. The walls were painted with grey enamel. There were no sharp corners anywhere. Every corner, every angle, between wall and floor or wall and wall, was rounded, to facilitate cleaning. And every wall, floor, ceiling, and fixture could be washed, and the furniture was enamelled and could be wiped with a cloth in a moment instead of having to be polished with three cloths and many odours in a day and a half. The bathroom was absolutely waterproof; it could spray it with a hose, and by means of a special apparatus you could produce an endless supply of hot water independent of the general supply." "Bless us!" said Mrs. Machin; as well she might. For, this book having been first published in 1909, it is plain that Mr. Bennett was prompt to seize notions that were much less familiar then than they are now. His book must have done very much to popularise them; for they are here quoted from the twentieth edition. And the novel is the most effective medium for conveying instruction kindergartenwise. A good novelist can teach without seeming to have any other object than that of amusing a vast public that abhors instruction but unconsciously imbibes a good deal of it from the novels. Fiction is the most ready source whence the public gets its ideas about domestic interiors; although the details are usually much more gorgeous, much less practical, than those to which Mr. Bennett so pleasantly condescends.



## HERE AND THERE.

HILL rising rather abruptly out of the sheep-dotted levels or "saltings," and crowned at its highest and almost its central point—or so it seems from a distant view—with a sturdy church, which is to the smaller buildings as a hen is to her chickens—that is how Rye stands out to the vision through many a league of landscape, and no doubt of cape also—though that I am unable to determine, being temporarily denied "the freedom of the seas." It is not that the foursquare battlemented tower has a conical roof which refused to grow into a steeple, but that at this determination the moment it found its scale and scale responding sweetly to the gables of nave and aisles, and those, again, inclining harmoniously to the hill-slopes. But what a mark for an enemy! Four times at least they destroyed the church.

Almost as often they destroyed the church, in 1377, burning it "nigh to ashes." It was at first a late Norman church, of the usual Latin-cross plan, with a circular apse, and of course without aisles. Nave and choir, after destruction, were repaired in the Early English mode, and aisles were added. In 1448, the Early English choir was destroyed, and it was afterwards rebuilt in the Perpendicular style. Perpendicular work is exemplified in the east window, and in the southern and one of the northern arches of the tower, as well as in the arches between the choir aisles and the transepts; and in the transepts are two interesting specimens of Late Norman arcades, with characteristic mouldings. If you do not see the style, ask the verger, who is a genial and most interesting man. It is the virtue of invasions that they leave the church a compendium of all the periods; or, if they did not, time and clime would atone for their ravages. It is good to be able thus to read the history of architecture in one volume: and there is a pleasant satisfaction—as near an approach to a thrill as architectural or antiquarian decorum will allow—in stepping and striding from one century into another, or, indeed, in reflecting this transformation in the twinkling of an eye. Hence I have no particular sympathy with the boasting of the restorer who can conceal his trail with the cleverness of a Wardour Street worm-eater, and beguile me into the belief that I am waxing poetic over the chisel-marks of the noble Normans, when as a matter of cold-drawn fact the work was done by a wretch who on the strength of it has just the impudence to ask the military tribunal for a pardon, and whose chisel bears the hall-mark made in Germany."

Nearly all the side streets in Rye are paved with flagstones, between which the grass grows ever young and green. Also all the windows in the town show a polish so remarkable that I appealed to an inhabitant—not the oldest, because there are half a dozen of him, and much time would have been lost in determining the delicate question of precedence—I appealed, I say, to an inhabitant who was not coming for seniority to tell me why the glass glows so. He said it was because it was made from flagstones picked out by experts with profound knowledge, infinite care, and the gracious permission of the Mayor and Corporation, from those with which the streets were paved. "And they do say, sir," he added (having gauged my swallowing capacity), "that in the north flints gets their green from the grass as they grow between 'em." "Sure!" said I; "where else do they get it?" "Well, sir," he returned, "between ourselves, and speaking as one old fool to another, if you was to look hard and close into any

pane of glass whatever, I should wonder if it cast back a sort of greenish reflection, sir; and so good mornin' to ye." My reflection was that if this local wag was not the oldest inhabitant in years, he was probably the oldest in sin.

Certainly the Rye folk seem fond of glass. Case-ments full of it abound in the town; and much of it has the delicately beautiful lustre and high transparency of the old English glass that was ousted by the cheap Austrian stuff that distorts everything seen through a London window. In the early days of its importation the distorting property of imported glass gave Mr. Punch an idea for a pictorial joke. In one picture you see a young Adonis as he thinks he looks to his lady-love who is gazing at him through the window. He is, of course, quite killing handsomely. In the companion picture the young man is shown as the young woman beholds him through the Austrian glass—he is imaged as a most deplorable parody on humanity, with two monstrous noses and a twisted mouth. Glass, which is "made to be broken," sometimes escapes that fate for centuries; and either it improves with age or—what is more probable—it was formerly made with greater skill or care.

When or by whom the large window was put into the tower of Rye Church I do not know, and I rejoice in my ignorance, for I do not wish to hold up to obloquy the name of some person who obviously meant well, and blundered as heroically as well-meaning persons commonly do. Also I object to the clock, with its motto, its "quarter-boys," and its pendulum swinging lazily half across the church, in plain view of anyone who cares to behold the "sickenin' spetticle" through the half-acre or so of glass with which the tower has been weakened. Here we have a tower that was evidently meant to withstand a siege, and that probably did so in its lusty youth. In its old age a child could hack her way through it with a croquet-mallet, because about two-thirds of the once sturdy tower is window. If, however, you can forget the absurdity of it, and become again a little child, you will enjoy the window and the pendulum, the clock and the motto and the quarter-boys—all, as Pepys would have said, "mighty pretty to see; but good Lord!" . . . Much the same sort of taste dictated the erection of the town-hall in the churchyard, or near enough to it to justify the expression; and actually and indubitably within the churchyard is a miraculously ugly structure known as "the Reservoir"—a kind of water-tower, put there because the spot happens to be the highest ground in the town, and kept there as a precious relic of the waterworks engineering of, I suppose, as long ago as a round century. If the inhabitants combined a particle of taste with their unquestioned spirit, they would urge the lads of the village to demolish the profane thing at the point of the pickaxe, and encourage them with bribes.

In the north aisle there is a window that was designed by Sir Edward Burne-Jones and executed by Morris and Co. It figures "The Manifestation of Our Lord to the Gentiles," and bears this inscription: "To the honour and glory of Almighty God and in loving remembrance of Mary Tiltman, who died December 30th, 1881. This window is erected by her eldest son, Alfred Hessel Tiltman, F.R.I.B.A., 1897." Beneath it there is a brass tablet, "To the tender memory of Alfred Hessel Tiltman, F.R.I.B.A., who died at Hampstead on July 17th, 1910."

DIODENES.



# THE SMALLER TOWN HOUSE OF THE LATE EIGHTEENTH AND EARLY NINETEENTH CENTURIES.

BY G. LL. MORRIS AND H. W. PARNACOTT.

(Concluded from page 112, No. 1235.)

IT is essential to grasp thoroughly the principle of economic grouping mentioned at the end of the preceding article, otherwise the alterations will become so costly that it would be better to pull down. As a rule, it is advisable to keep the bathroom, etc., at the rear of the building, as the necessary pipes when carried down in the external face of the wall are most unsightly. As far as these old existing buildings are concerned, we think, in some circumstances, it should be possible to arrange with the authorities to carry the pipes down on the inside of the building, subject to the provision of easy access to them for repairs. In this connection "Bye-laws relating to soil pipes and ventilating pipes should be open to modification, as the pipes disfigure the buildings when they are carried up entirely exposed to view,"<sup>6</sup> especially in these simple classic domestic structures. In flats the kitchen will frequently be small, and consequently must be most carefully laid out, and occasionally it will be necessary to combine both kitchen and scullery. The simpler the arrangements the better. Dressers should be provided with good drawer and pot-board accommodation, and cupboards should be placed as far as the conditions permit in the most handy positions. Sinks should be of ample size, with good draining-boards, and plate-racks placed directly over the latter to catch the drip of the water from the plates. If it is not possible to cover the whole of the kitchen and scullery walls with white or cream-coloured tiles, the portion at the back of the sink and draining-board, and also across the ends of it, should be lined from the floor level to about twelve or eighteen inches above the top of the sink. It is also a good plan to line the wall at the back of the gas cooker. Even in newly built flats the attention given to the fitting up of the kitchens, sculleries, larders, and stores is quite inadequate, so that it becomes of importance that in these adaptations, so far as the conditions will allow, these matters should be considered at every step, from the efficiency of a lavatory tap to the adequacy of the size of a kitchen sink. When all this has been done, however, there will be points open to criticism which, although possibly foreseen from the first, have been settled on the principle of choosing the lesser of two evils. We have frequently been called upon to make a choice of two ways of solving a difficulty, neither, perhaps, being wholly satisfactory; it therefore becomes necessary to make a choice. It is attention to little points which will make the difference between the success or failure of the newly arranged plan.

On the upper floors the lighting of the passages calls for some ingenuity and common sense, as direct lighting from an external wall is not always obtainable. New fanlights over the internal doors, with borrowed lights in the partitions on each side of the fanlight and ranging with it, give a satisfactory effect, and the walls of the passages can be kept light in colouring.

## Plan and Purpose.

For whom and for what purpose may the plan be converted is a question which will be asked directly the possibilities of adaptation are realised, and the answer will depend on the conditions prevailing in the district in which the scheme is to be carried out. It is obvious that parts of Bloomsbury, Paddington,

and Belgravia will not come under the same category as Islington, Chelsea, and portions of Hammersmith. Again, the districts in or near City, and business neighbourhoods generally, will be on a different footing. In these latter the buildings can be converted into blocks of offices or private residential hotels rather than into improved town houses or blocks of flats. The plan lends itself admirably for office purposes, more particularly the upper floors with its usual arrangement of three rooms. Lavatories can be arranged most conveniently in the basement or the floor below the attic. If the building does not exceed two floors above the ground floor no lift will be required, but should it be of three or four floors one must be installed. The considerable expense incurred through the installation of a lift may be spread over two or three houses united by means of openings in the division walls. In some neighbourhoods flats adapted for the middle-class will be the most suitable form, for the better-off artisans who need to live in the vicinity of their occupation. There will also be numbers of the professional classes who prefer town life, with its educational facilities for their children, to the questionable delights of three hours' journey every day and exhausting work in a garden at the end of it. Flats are also in demand for the growing number of women engaged in commercial, teaching, and literary work. The following are a few suggestions for re-arrangement.

1. Conversion to a Modern Town House.—The chief alteration will generally be on the basement and ground floors, and on second and third floors a bath and lavatory accommodation, with modification of the stairs at these levels.

2. Conversion to Flats.—Flats at each floor level above the pavement, in pairs of houses united by openings in the party walls, with both staircases used, one as tradesmen's staircase or means of escape in case of fire, the other as principal staircase.

3. Flats or Maisonnettes of varying accommodation in single houses, using two floors for each flat or maisonnette.

4. Workmen's flats in single houses arranged one or two floors.

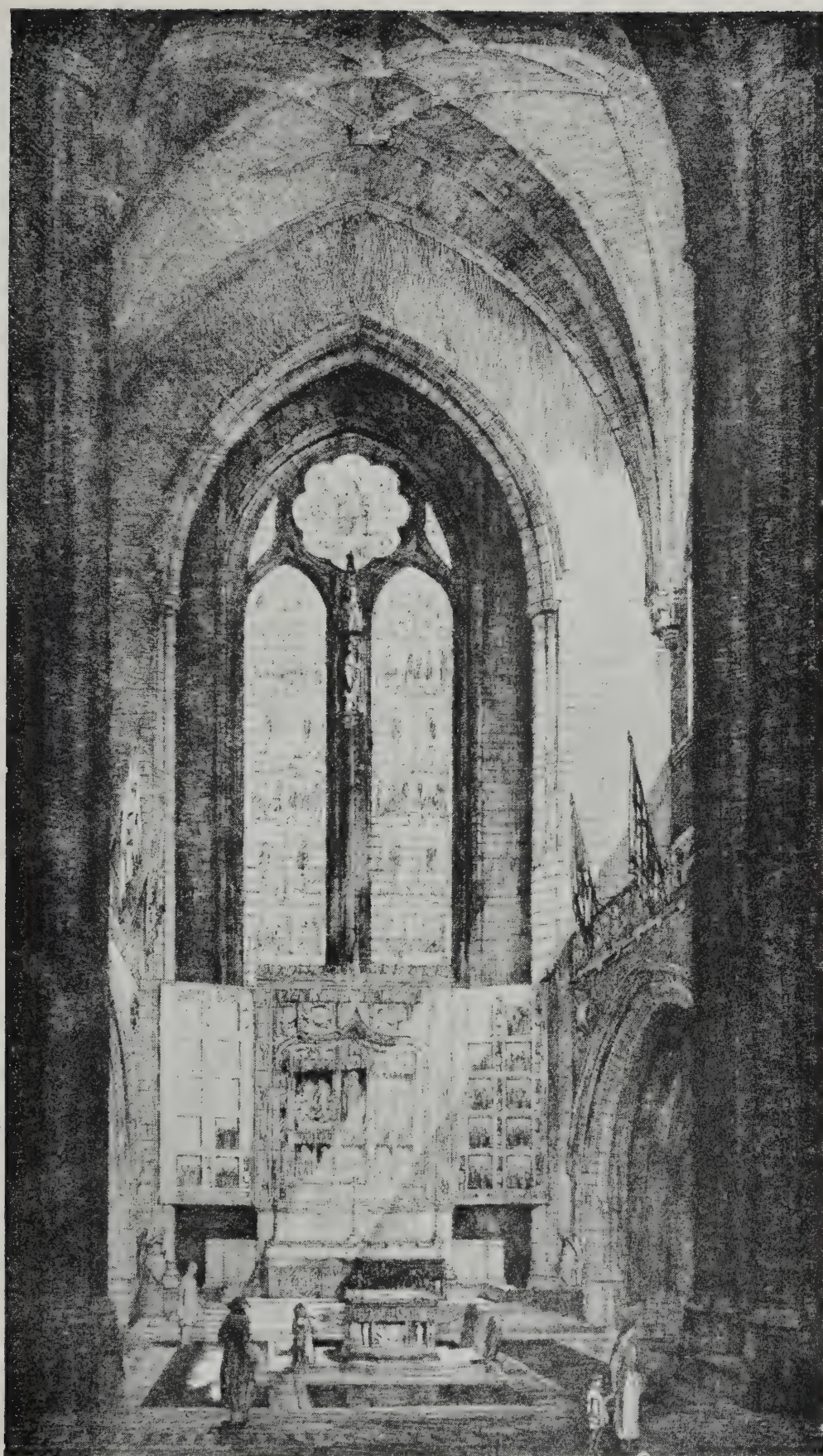
The accommodation will naturally vary in accordance with the needs of the tenants, and to some extent will be fixed by the number of floors in the height of the building. These are from three, four, five, or even six, floors in height. A table is given of the various accommodations which can be obtained in these adaptations:

- (1) Living room, one bedroom, small kitchen.
- (2) Living room, two bedrooms, kitchen.
- (3) Living room, three bedrooms, kitchen.
- (4) Sitting room, living room, two bedrooms, scullery.
- (5) Sitting room, living room, three bedrooms, scullery.
- (6) Dining room, drawing room, kitchen, scullery, three bedrooms.
- (7) Dining room and hall, drawing room, kitchen, scullery, four bedrooms.
- (8) Dining room, drawing room, hall, kitchen, five bedrooms.

To all of these should be added a larder, cold bathroom, w.c. and lavatory, and, in the cases Nos. 7 and 8, a housemaid's closet.

6. "Town Planning in Practice." By Raymond Unwin. P. 339.



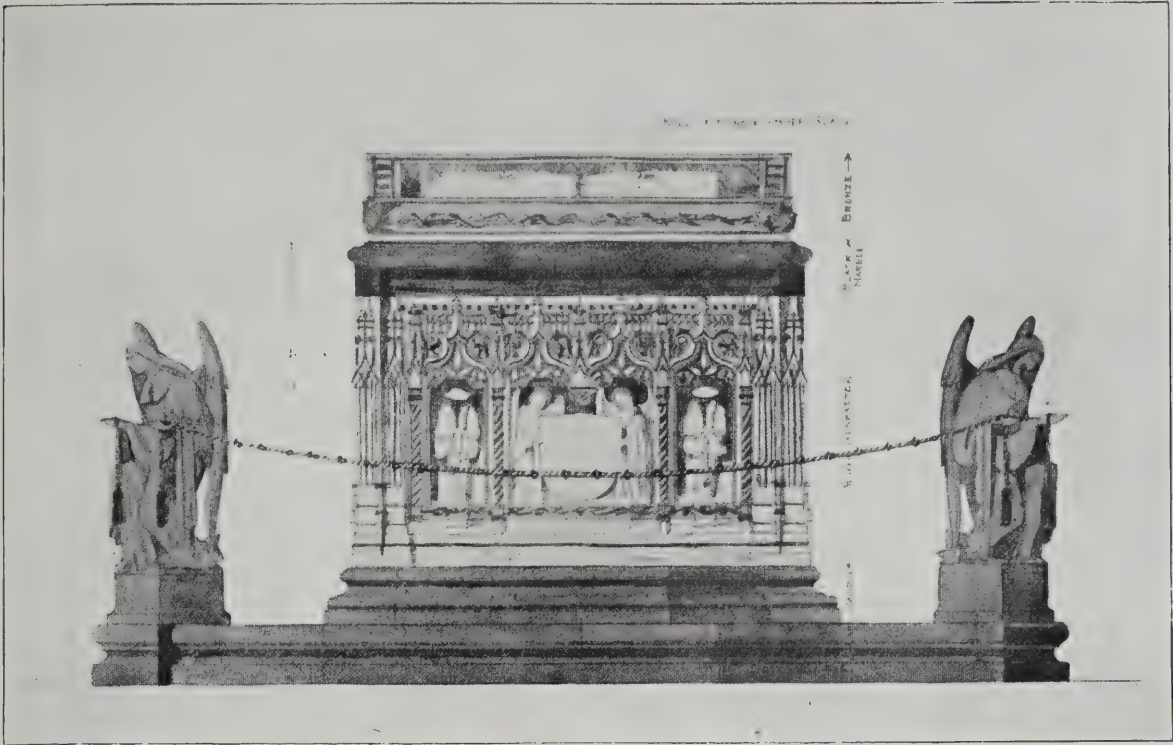


CURRENT ARCHITECTURE (SERIES V.). XLVI.—DESIGN FOR WAR MEMORIAL CHAPEL, LIVERPOOL CATHEDRAL.

G. GILBERT SCOTT, A.R.A., F.R.I.B.A., ARCHITECT.







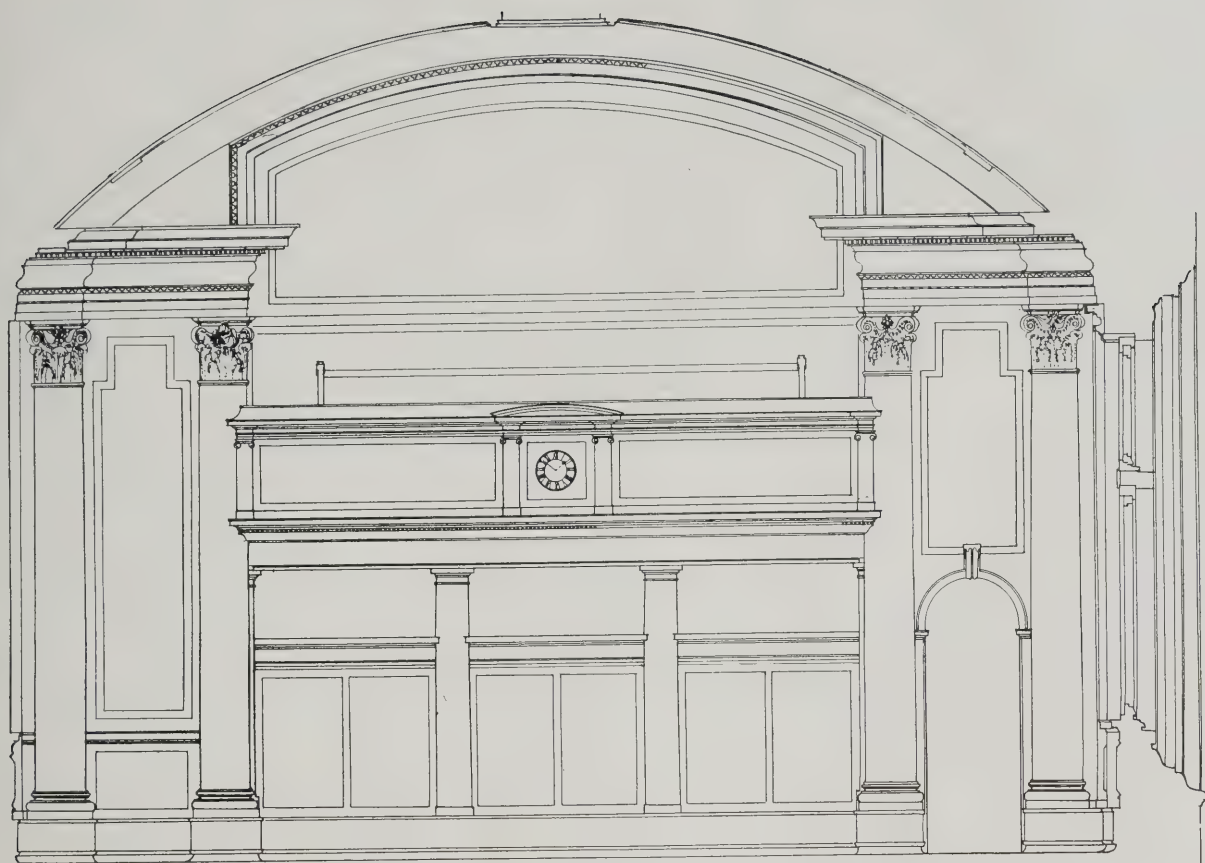
The Cenotaph.



Decorative Panel on Reredos.







END WALL OF COUNCIL CHAMBER.

Municipal Buildings  
STIRLING.

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J. GAFF GILLESPIE  
ARCHITECT.

Reporters Seats  
under  
Public Gallery

to  
Committee Rm

ARCHITECTS' WORKING DRAWINGS (SERIES III.) V.—MUNICIPAL BUILDINGS, STIRLING: DETAIL OF END WALL OF COUNCIL CHAMBER.

J. GAFF GILLESPIE, F.R.I.B.A., ARCHITECT.





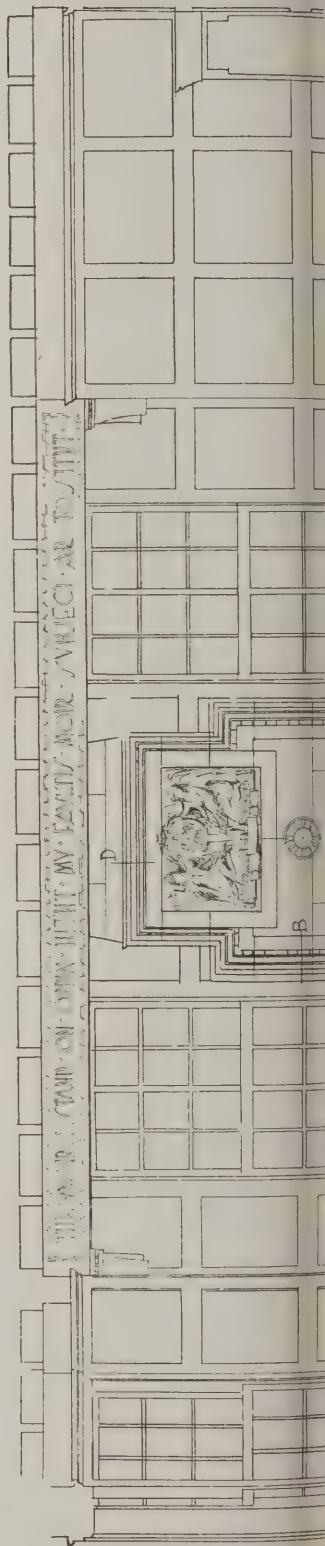
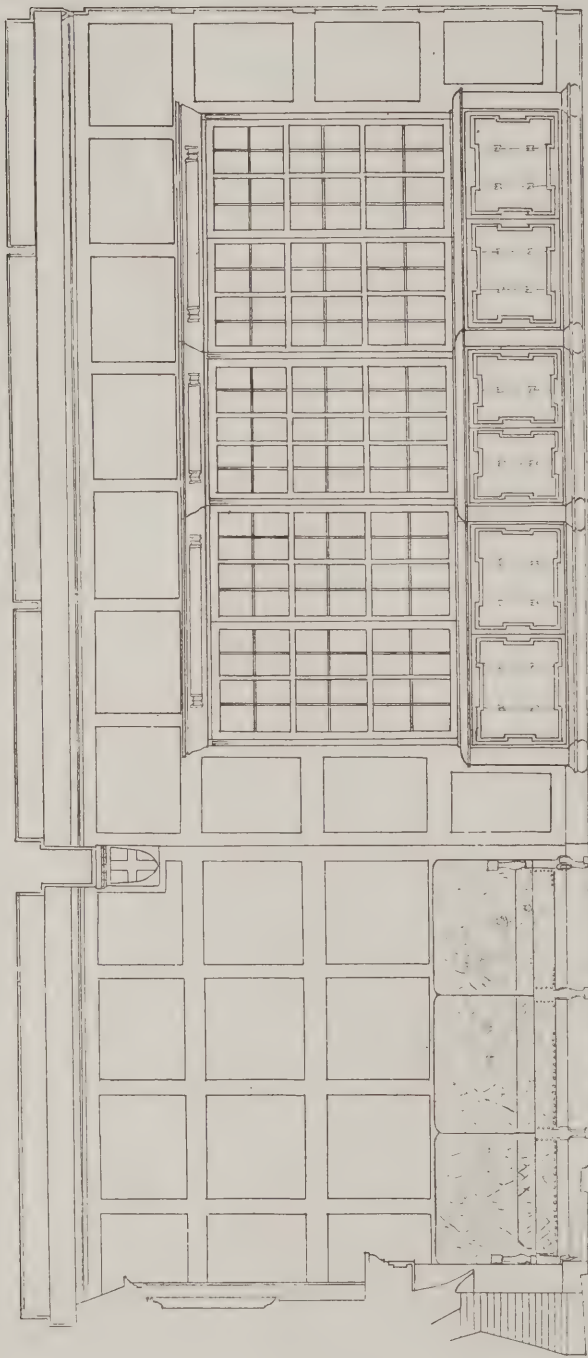
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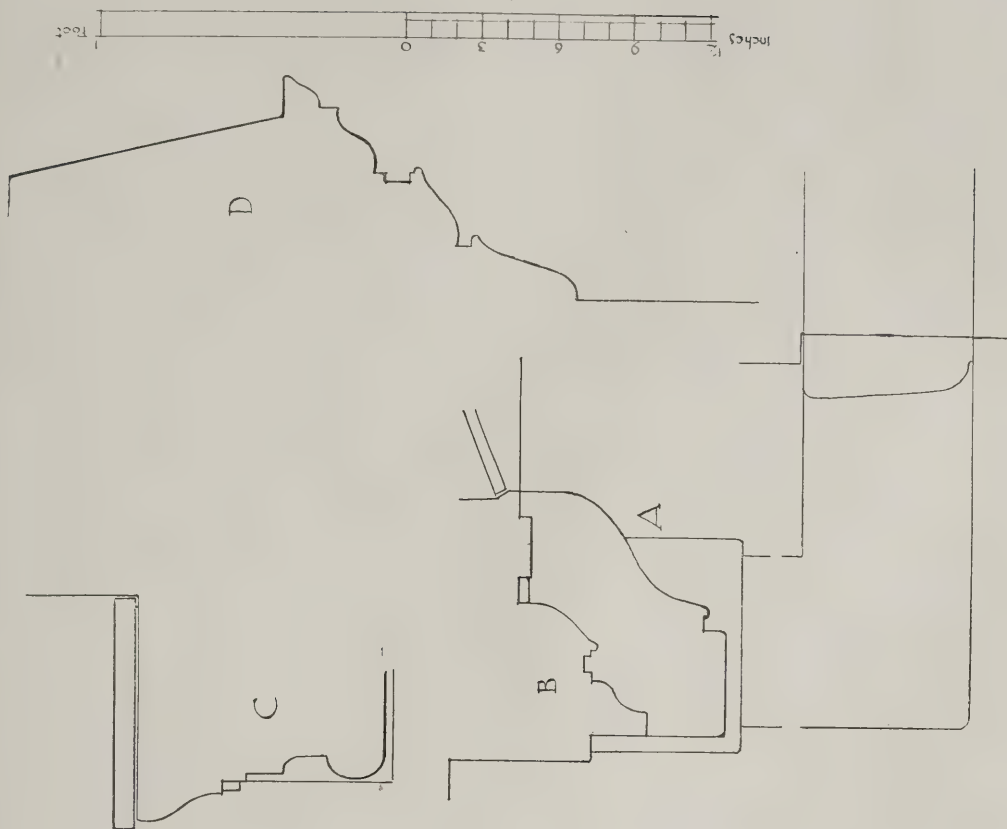
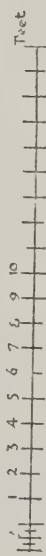
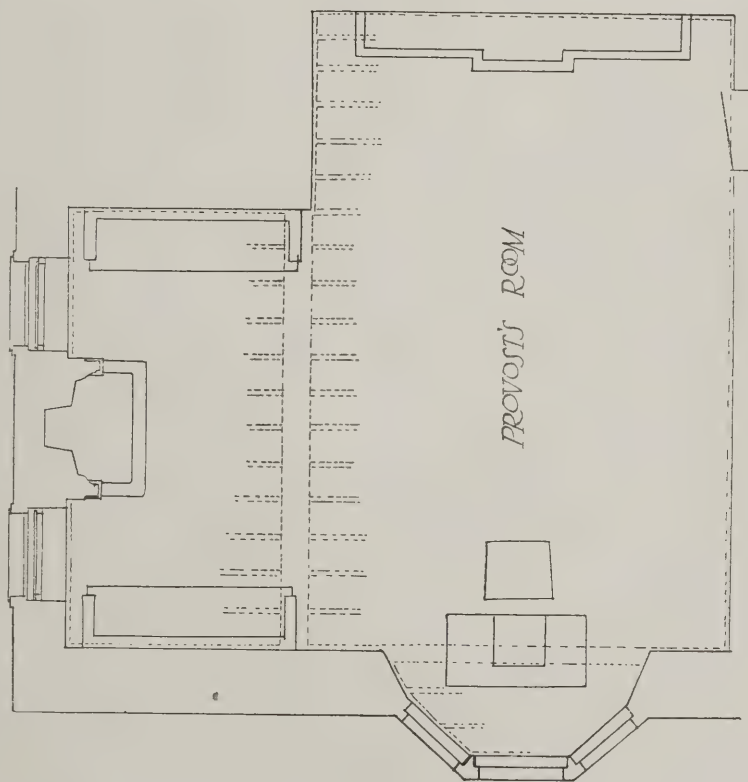
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ARCHITECTS' WORKING DRAWINGS (SERIES III.), VI. - MUNICIPAL BUILDINGS, STIRLING: DETAIL OF PROVOST'S ROOM.

J. GAFF GILLESPIE, F.R.I.B.A., ARCHITECT





he foregoing are either schemes which have been carried out or are proposals based upon actual surveys of existing buildings, and will give a rough idea of what may be done; the stores for coals and the accommodation for the tradesmen's lifts will be arranged in the basement, a separate lift communicating with each flat.

The question of means of escape in case of fire should not be overlooked, and to avoid the hideous ornamental iron staircase the existing ones can be used for this purpose.

Before beginning any scheme, the structural condition of the buildings will need to be carefully examined from the foundations to the roof, including the walls and plaster work, floors, woodwork, roofs, and in some cases the buildings should be thoroughly disinfected. Numbers of surveys made by us in different parts of London have given interesting results in this respect, from dwellings with which nothing can be done except to pull them down, to others requiring only a moderate amount of cleaning and renovation; others, again, both internally and externally, are in fairly good general order. Large numbers of them have been standing empty for years, and have become infested with rats, plague spots breeding disease, and all manner of uncomfortable and crawling beasts. It would be invidious to name these scandalous residential neighbourhoods. They may be found in almost all parts of London. Near a great railway terminus, a whole block of houses, some of which actually face the terminus, are, with the exception of an hotel and a few other houses, in just such a state as we have described. What a glorious sight for the visitor approaching London by this railway artery! Squalid alleys lead to the metropolis, extending for miles along the main lines of the railways, give the foreign country visitor a most unfavourable opinion of London, and this opinion is confirmed rather than improved on arrival at any of the termini, which are usually surrounded by a most depressingly untidy collection of buildings, many of which, however, show traces of former comeliness, and need only a little attention to restore it. What a disgrace that London should be spotted over with these miasmatic residential neighbourhoods that might easily be fair and pleasant to look upon! Most of them might be completely transformed. A typical neglected street, with the surrounding roofs, looks like a disused yard, and has become so dangerous that the end of the street is boarded up.<sup>7</sup>

Even the best will in the world, it is difficult to contemplate with proper seriousness the building of a million new cottages spread over the suburban districts of London and other large cities. "Has it ever been considered," says Captain G. S. C. Swinton, "whether these cities will swell, yet another ring of smothering humanity, bound round and throttling the place which is already congested, the more populous the greater the political pressure?" "A million new houses for London, 20,000 apiece for Glasgow, Liverpool, Manchester, Birmingham, and so on. The thing is all wrong, and the disposition to do nothing through the existing municipalities points to the situation certainly becoming worse."<sup>8</sup>

At this point of view we are in general agreement, for, on the one hand, we have projected housing schemes for the outer rings, while, on the other hand, we are invited to watch the spectacle of decay, and spoliation of well-designed domestic buildings in the heart of our cities and

## THE PLATES.

### *War Memorial Chapel, Liverpool Cathedral.*

AS already recorded in this journal, Liverpool's War Memorial is to be set up in the eastern area of the first transept of the great cathedral, which is now in course of erection, from the designs of Mr. G. Gilbert Scott, A.R.A., F.R.I.B.A. This transept, with which some progress has already been made, is to be converted into a chapel, separated from the main fabric by a metalwork grille, and containing a cenotaph, reredos, and stained glass windows. In this issue we publish a selection of the architect's designs, from which the fine character of the memorial may be judged. The cenotaph, the principal feature of the scheme, will be mounted on a platform of black and white marble, and will be executed in alabaster, embellished with rich allegorical carvings. There will be a kneeling figure at each corner. Upon the cenotaph will be placed a handsomely bound volume, in which will be inscribed the names of the fallen, together with their units or ships. The memorial transept is estimated to cost about £50,000.

### *Stirling Municipal Buildings.*

These buildings, of which two admirable working drawings (interior details) are included in this issue, were designed by Mr. J. Gaff Gillespie, F.R.I.B.A. Conceived in the Scottish Baronial style, they are constructed of stone from Pasture Hill and Black Pasture Quarries. The main buildings contain the council chamber, reception-rooms, and offices for the Town Clerk, Town Chamberlain, and other officials.

## CORRESPONDENCE.

### *The Scottish Local Government Board and Housing. To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.*

SIRS,—We have been told many times that this war would revolutionise our various modes of building construction, but where is the architect who could have foreseen five years ago that 2½-in. concrete slabs rendered with waterproofed cement would now be officially adopted for exterior walls in Scotland?

The tendency before the war was to increase the thickness of the walls to keep out the dampness, which was an unsatisfactory method, not only on account of the cost, but because a porous material will always conduct humidity. The only true solution is to use impervious materials for walls or to render a porous material with waterproofed cement.

No one objects to thin window glass because it is thin, for we all know it is impervious to moisture.

The most hygienic and the warmest house is one built of coke breeze or porous brick concrete, plastered in the usual way on the interior (thus presenting the necessary absorptive properties for warmth, and also preventing condensation), together with an exterior rendering of ¾-in. of waterproofed cement, applied in two coats. Such a wall is warmer than the ponderous walls of most ancient castles.

The British Government have built many hundreds of cottages with 2¾-in. coke breeze curtain walls, which were rendered with ¾-in. of Pudlo cement. The very fact that the Scottish Local Government Board have adopted outer walls to be built of 2½-in. concrete slabs, with external cement facings, should give great confidence to architects for their "after the war" schemes.

Some districts in Scotland are probably the most humid and the bleakest parts of the British Islands, so that the lead of the Scottish Local Government Board can be safely followed.

J. H. KERNER-GREENWOOD.

King's Lynn.

<sup>7</sup> These districts were visited in August, 1917, and two of them again in 1918. No change has taken place, except a further deterioration and an increase in the number of broken windows.

<sup>8</sup> In the "Nineteenth Century and After," May, 1918. "A Forth and Ship Canal." By Capt. G. S. C. Swinton.



## NEWS ITEMS.

### *Wages at Portsmouth.*

The Portsmouth and District Master Builders' Federation have granted their employees an increase in wages of 12½ per cent., to take effect at once.

### *Belgian War Memorial at Shorncliffe.*

A mausoleum erected at Shorncliffe Military Cemetery to the memory of Belgian soldiers interred there has been designed by M. Hargot in the Greco-Egyptian style. On one of the walls is an inscription paying tribute "to the hospitable soil of England," in which the dead are laid.

### *Leek Housing Scheme.*

At a meeting of Leek Urban Council it was reported that at a conference with a representative of the Local Government Board it was recommended that steps be taken to acquire provisional sites in Leek for the erection after the war of 100 workmen's dwellings, and that plans be prepared for submission to the Local Government Board. The Council appointed a committee to take up the matter.

### *New Art Gallery for Modern Foreign Work.*

The Director of the National Gallery states in his annual report that in connection with a bequest of modern foreign pictures to the trustees by the late Sir Hugh Lane, an offer from a generous donor, who wishes at present to be anonymous, to build a Gallery for Modern Foreign Art on part of the site reserved behind the Gallery at Millbank, has been accepted, and the gallery will be built as soon as circumstances permit.

### *Indian Cements.*

The Government of India has issued a report of tests of cements carried out by Mr. Musgrave, Alipore, stating that he finds that Indian Bundi and Katni cements, as at present manufactured, are equal to the best English brands, also that the same is true of Porbandar cement, except as regards its tensile strength, which is somewhat low. All these cements, the report states, are sound, reliable, and suitable for every class of work.

### *Dumbarton Waterworks Extension.*

Dumbarton Town Council, with the consent of the Ministry of Munitions, have just completed a useful extension of their waterworks. Under their Provisional Order of 1914, they acquired the right of the Milton Braes, and they have diverted 105 acres of the watershed into Loch Humphrey by linking up the loch with the Moor Dam. The pipe is estimated to deliver 200,000 gallons per day. The scheme has cost £1,300.

### *Liverpool Cathedral "Peace Cross."*

Mr. Arthur Earle, who has already contributed most generously to the Liverpool Cathedral Fund, has now given £2,000 for the erection, at the conclusion of the war, of a large granite peace cross, over 30 ft. high, in the precincts of the cathedral. The idea is that the steps and space surrounding the cross shall be used for preaching and religious meetings of any denomination subject to any conditions hereafter decided upon.

### *Town of Shaftesbury Sold.*

At the sale of Lord Stalbridge's estate at Gillingham, Dorset, on September 3, Messrs. Knight, Frank, and Rutley announced that Lord Stalbridge had sold the greater part of the town of Shaftesbury to Mr. James White, and he had made it a

condition of the contract that the town was first offered to the Mayor and Corporation of Shaftesbury for a week at a reasonable price, and if they were unable to purchase, then to become tenants. Failing a sale in this way, it was also stipulated that before any further action was taken each individual occupier was to have the offer to purchase his house or cottage for one month at a fair and reasonable price. The day's sale amounted to over £240,000. Shaftesbury is very ancient. It was either built or rebuilt by King Alfred, from whom it acquired a great Benedictine nunnery, where Edward the Martyr was buried. King Canute died there.

### *London Builders' Labour Exchange.*

The London Building Trades Employment Exchange Committee have secured from the Minister of Labour a promise to reserve the new employment exchange in Tavistock Street, Covent Garden, for the sole use of workmen in the building trade. They have resolved now to draw his attention to the waste of public money and labour caused by the despatch of workmen to jobs in connection with which no suitable sleeping accommodation is provided.

### *A Scott Holland Memorial.*

A committee, with the Bishop of Winchester as chairman, has been formed, and an appeal is now being issued for funds to create a memorial to Canon Scott Holland. The committee appeal for the sum of at least £5,000 to be devoted (1) to meeting the initial expenses of preparing for publication Dr. Scott Holland's unpublished writings; (2) to completing the buildings of the Maurice Hostel at Hoxton; (3) to founding a "Holland Lecture" (it is hoped in connection with the University of Oxford) on the Theology of the Incarnation in its bearing on the social and economic life of man.

### *New Shrine for Hyde Park.*

Sir Alfred Mond, First Commissioner of Works, has approved Sir Edwin Lutyens's design for the permanent shrine to be put up in Hyde Park for Mr. Waring. The shrine is to be of white plaster, oblong in form, and about 70 ft. in length. Pylons will rise to 40 ft. from the ground at either end, with a large acorn, the symbol of eternity, on the top of each. There will be inscriptions on both pylons and also on the great stone on an eminence in the centre and about 13 ft. from the ground. Entrance to the shrine will be possible through doors in either pylon. The work is to be commenced immediately.

### *Newport: Proposal to Build 1,000 Houses.*

The Housing Committee of Newport Corporation has formulated a scheme for the approval of the Town Council by which it is proposed to build 1,000 houses at a cost of £500,000 on the eastern side of the borough. The two sites suggested are the Somerton Estate, which the Corporation provisionally took from Sir Thomas Watson, Bart., some years ago (but the option of which was not finally taken up), and in the Beechwood Park district. It is proposed to have a variety of type of house, and not to put more than twelve houses on an acre. Any deficit beyond the expenditure of a penny rate on the scheme it is hoped the Government will meet.

### *Newcastle Town Hall.*

The Newcastle Town Hall (writes "Elfin" in the "Newcastle Chronicle") was sixty years old yesterday (September 1). "That is to say, the building has for two generations been a reproach to

the city. It is probably as true of public buildings as of men that those that threatened live long. And if the longer be in proportion to the threats and curses, who will assert that the town will not achieve a fine crumbly old age. If the public spirit of Newcastle remains what it is, we may be quite sure that the town hall has not yet reached middle age. I would make a modest wager that it will still stand in 1978, but for two reasons. One is that I am not addicted to wagers, and the other is that I might not be happy to receive the money."

## CONCRETE COTTAGES.

Mr. C. D. Leng, of Sandygate, Sheffield, writes as follows to the "Field": "It is of interest your readers to know that concrete houses can be built with cavity walls without using blocks. By the Calway system a long mould is used with a movable core. This is placed on the damp-course or foundation filled with damp concrete consisting of five parts of broken stone and two parts of sand to one part best cement made 10 per cent. of water, and rammed solid. The core is removed, the mould unscrewed and moved or slid onward, leaving behind a cavity wall (9 in. thick with ties at regular intervals) 12 in. high. The process is repeated until the outline of the house is complete. The following day the masons work on the top of the 12-in. wall and lay a further 12 in., so that in twenty-one working days a wall or cottage 21 ft. high has been built all in one piece. Three men can build 25 ft. super of 9 in. cavity wall in an hour.

"I have myself built a pair of houses by this process as an experiment. The results are entirely satisfactory, and are let at 10s. per week each. I started with broken stone, sand, and cement, but finding broken clinker or hard ashes cost half the price of broken stone (2s. per load against 4s.) I used ashes, which the builder said made a better concrete. The men employed were labourers. The roof timbers were covered first with a good quality of stiff felt, overlapping well and stuck down with hot pitch so that the roofs were rain and wind proof. Then the spars were nailed on to carry the tiles. The walls were finished rough, and colour-washed a dark cream colour. This is undoubtedly the cheapest form of building where sand and stones or cinders can be obtained.

"My two houses are warm in winter, cool in summer, and perfectly dry. The concrete sets very hard, and the result is greater strength than with brick."

Mr. William Woodward, F.R.I.B.A., writes the following letter in the "Daily Mail": "You rightly say in your leading article 'The Concrete Age' that 'the idea of a standard cottage multiplied by six figures is appalling.'"

"That is the very idea which one cannot get any Government office dealing with the matter to dispel! Imagine 500 standardised concrete cottages, erected by the Government Department or by a local authority, to take the place of the picturesque thatched-roofed cottages, many of which still remain in the country, to gladden the eye!

"We must, of course, follow the time of these new inventions, but in the case of the concrete cottage, unless the finish of the exterior surfaces of the outside is well considered, the effect, after two or three winters' and summers' weathering, will, as you say, be 'a nightmare thing to drive a nation to insanity.'"





## WAR BUILDINGS SECTION

### SMALL HOUSE CONSTRUCTION ANALYSED.

In recent issues we have dealt somewhat exhaustively with the larger and more general aspects of up-to-date housing policy. Coming to the consideration of practical details, it is interesting to note the kind of construction and finish that have been adopted in current housing schemes, notably in the case of those carried through so successfully at Glengarnock, Ambuslang, and Gourrock by the Scottish Local Government Board. From the very instructive memorandum recently issued by that authority we extract the following interesting information:

#### Walls.

In the schemes carried through by the Board the following methods of construction have been adopted for the outer walls: (1) 11-in. cavity walls formed of 4½-in. brick with a 2-in. cavity, the walls being bound together with galvanised iron ties. (2) 9-in. cavity walls made of two 3-in. concrete slabs built similarly to (1). (3) 4½-in. brick walls with 4-in. thick brick piers at intervals. (4) 4-in. concrete slabs with 6-in. thick concrete piers at intervals. The last two methods of construction have been adopted only in single-storey types of houses. The walls have in all cases been rough-cast externally with cement and plastered internally. The plaster has been applied to the solid wall in (1) and (2), and the walls in (3) and (4) have been strapped and lathed before being plastered.

In selecting materials preference should be given to those which belong to the class most readily obtainable in the district. In certain districts under favourable conditions stone or concrete construction may be adopted with advantage and economy. Generally it will be found that 11-in. brick hollow walls built in cement, rough-cast externally and plastered on the hard internally, will give the best results, both from the point of view of economy and expedition in erection.

#### Damp-proof Course.

A damp-proof course of approved material should be provided in all walls, and it should never be less than 6 in. above the highest finished level of the ground.

#### Window Sills.

In brick hollow wall construction the window sills should be in stone or concrete. Trouble has frequently been caused owing to damp penetrating at this point and showing on the inside of the walls, and attention is drawn to the necessity for care in the detail and construction.

In some cases it has been found that good results are obtained where the sills are not carried through the whole thickness of wall, and are protected at the back by asphalt sheeting carried along the bed to the outside face of wall.

#### Lintels.

The lintels will generally be constructed in concrete cast on the ground. They should be reinforced with iron rods where the opening exceeds 3 ft. 6 in. in width. In brick hollow walls the lintels may be carried through the whole thickness of wall, in which case the top of the lintel should be protected by a piece of asphalt sheeting built into the inner 4½-in. wall and carried through the outer 4½-in. wall. An alternative method which has been adopted is to preserve the cavity and construct the lintel in two 4½-in. thicknesses, in which case the asphalt sheeting should be placed above the window casing.

#### Partitions.

On the ground floor these should be constructed in 4½-in. brick and built in cement mortar. In apartments having concrete floors the partitions, where carried up only one floor and not giving bearing for joists, may be built off the concrete floor in brick on edge. The partitions on upper floor, where they are not

carried up from below, should be formed with 2-in. concrete slabs. This is more economical than a lath and standard partition, and is also more hygienic.

#### Roofs.

Notwithstanding the possibilities of steel and concrete in the future the roofs will for some time be constructed in timber and should be covered with boarding and felt. The pitch of roof should, as a rule, not be less than 45 deg.

#### Eaves.

It will generally be desirable to provide overhanging eaves. These give a pleasing effect and also afford considerable protection to the walls. The ends of rafters and boarding should not be exposed, otherwise a considerable upkeep in painter work is involved. The wallhead may be formed with 4 in. thick breeze concrete slabs carried across the whole thickness of the wall and projecting 9 in. or thereby. These slabs will carry the wall plate, and the bell cast can be formed very readily and economically on top. The soffit of this projection will be rough-cast along with the walls. This wallhead course, if increased in thickness at the back and reinforced with rods, will also serve as the lintel over the upper-floor windows.

#### Chimney Heads.

The chimney heads above the roof line should be built in cement mortar and, if a weather-table is formed in concrete round the chimney stack, the slates or tiles may be pointed in below and the necessity for a lead flashing avoided.

#### Roof Covering.

Slates or tiles may be used for roof covering, and may be varied in the different groups of buildings with pleasing effect. Pantiles should only be used on roofs of the simplest design, as they are not suitable for cutting. Where slated



roofs are used the ridge, piend or hip tiles and chimney cans may with advantage be of grey colour in place of red.

Floors.

The floors of the living-room and bedrooms will generally be constructed with wood joists and covered with  $\frac{7}{8}$ -in. grooved and tongued flooring. Careful consideration is now being given to the use of concrete construction for floors. This mode of construction will probably be necessary to some extent owing to the scarcity of timber. Further information with reference to this will no doubt shortly be available through the reports of the committees referred to in an earlier portion of this memorandum. The floors of the scullery, larder, and coal store should be of concrete.

Windows.

The ordinary hung window will be found most suitable for Scottish conditions. The details of the window case and sill should be carefully considered with a view to rendering the windows thoroughly weather-tight. The sashes should not be less than  $1\frac{3}{4}$  in. thick finished size. The windows should be divided up with astragals into panes. This does much to preserve the scale of the building, and it is desirable that the dimensions of the panes in the different sizes of windows should be kept fairly uniform. A metal or hard wood weather bar should be provided between the wood and the concrete sill.

Doors.

Bound panelled doors should generally be used in the entrance passage and principal rooms. The doors in the scullery may be of lining and fitted with back bars and braces. The front and back entrance

doors should be provided with weather bar to prevent driving rain setting entrance. As a further preventive to draught, it has been found desirable in exposed situations to provide a hard wood sill. This also allows of the door opening clear of the mat, which is an advantage, especially where the lobby space is restricted, and obviates the necessity for a mat sinking in the floor, which would otherwise be necessary. Note.—The mouldings on doors, facings, skirtings, etc., should be as simple as possible, both for hygienic reasons and to minimise domestic labour.

Skirtings.

Skirtings should be provided in all apartments.

Picture Moulding.

A picture moulding should be provided in the living-room and parlour, and is, indeed, an advantage in bedrooms also. The walls are thus prevented from being damaged by nails.

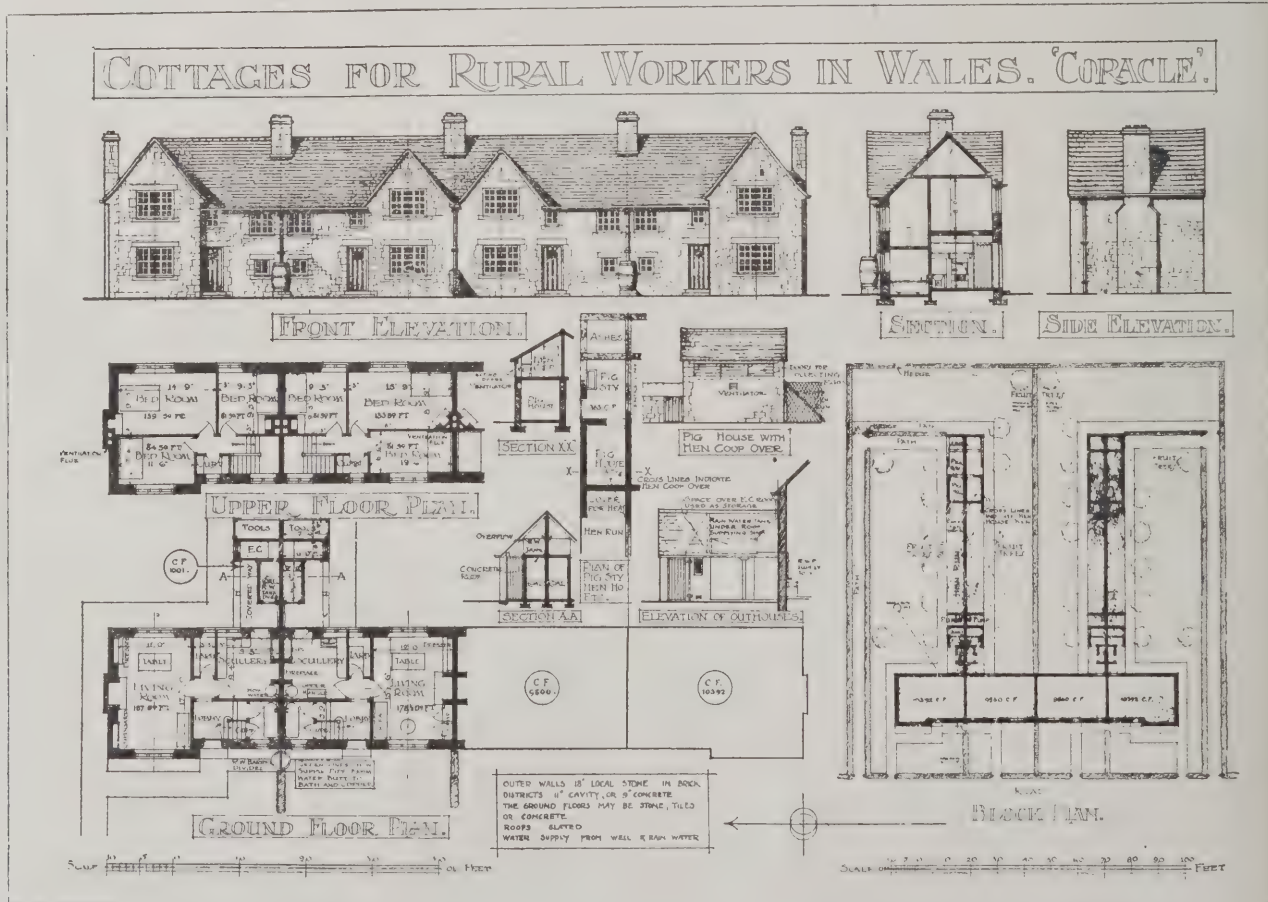
ROYAL NATIONAL EISTEDDFOD HOUSING COMPETITION DESIGNS.

Full details of the awards in the above competitions were published in our issue for August 21. By the courtesy of the organisers (the Welsh Housing and Development Association) we are now able to give reproductions of the winning designs. The conditions of the competitions may be briefly restated. Designs were invited for (1) three classes of cottages and (2) living-in quarters for unmarried agricultural labourers. The

former were to contain the following accommodation: (a) Living-room, scullery and three bedrooms; (b) living-room, parlour, scullery, and three bedrooms; (c) accommodation at the discretion of competitors, but with a minimum of three bedrooms planned entirely or mainly on one floor. A prize of £50 was offered in each case for the cottages, and one of £10 for the living-in quarters. It will be noted that in the case of Class C the prize was divided.

HOUSING AFTER THE WAR: ADVICE TO LOCAL AUTHORITIES

We have received the following communication from the Secretary of the Local Government Board, Edinburgh: With reference to the Board's Circular of June 2, 1918, and especially to the fourth paragraph thereof, I am now directed to transmit a copy of a Memorandum by the Board's Housing Commissioner of points to be kept in view in connection with the laying-out of sites and the designing of houses for the working classes. As stated in the Memorandum, the suggestions made therein are chiefly the result of the experience gained by the Board in carrying out housing schemes under war conditions on behalf of the Admiralty and the Minister of Munitions. Appended to the Memorandum are specimen plans of lay-out, design, and street construction adopted in certain of these schemes. It is hoped that the Memorandum and relative plans will be of assistance to Local Authorities proposing to formulate schemes of post-war housing. Additional copies of the Memorandum can be obtained from H.M. Stationery Office.



ROYAL NATIONAL EISTEDDFOD HOUSING COMPETITION: WINNING DESIGN CLASS A.

BY J. AUSTIN LAIRD.







CLASS C.

COTTAGES FOR RURAL WORKERS IN ANGLESEY.

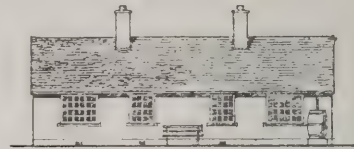
CORACLE.



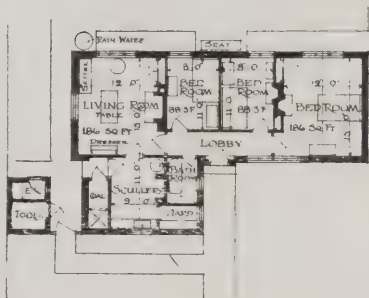
EAST ELEVATION.



SECTION.



WEST ELEVATION.



PLAN.

OUTER WALLS 18" LOCAL STONE IN BRICK DISTRICT 11" CAVITY OR 9" CONCRETE.  
THE GROUND FLOOR CAN BE STONE TILE OR CONCRETE.  
ROOFS PLASTERED.  
WATER SUPPLY FROM WELL & RAIN WATER.

SCALE FOR BLOCK PLAN



SCALE FOR ELEVATIONS & PLANS



THE BUILDINGS IN CONNECTION WITH THIS SITE, PRELIMINARY PLAN, WILL BE SHOWN AS SHOWN FOR DESIGN A.



BLOCK PLAN.  
SCALE 1" = 20 FEET.

By J. Austin Laird.



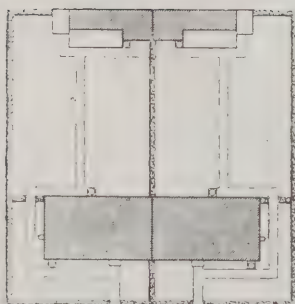
SECTION A



FRONT ELEVATION



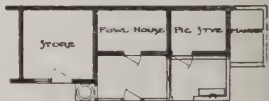
ELEVATION



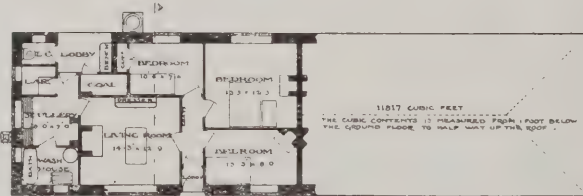
SITE PLAN



BACK ELEVATION



PLAN



PLAN

MATERIALS

WALLS EXTERNAL STONE PLASTERED INSIDE  
PARTY 9" BRICK OR STONE  
INTERNAL 3" CONCRETE BLOCK, PLASTERED  
FLOORS LIVING ROOM 4" CEMENT CONCRETE,  
AND 3" CORE BRICKS TOPPING WITH  
FLOOR BOARDS TARGED UNDERNEATH,  
AND NAILED DIRECTLY, OR COVERED WITH  
UNOLEUM PASTED DOWN IF MORE EASILY  
OBTAINABLE  
SCULLERY ETC 3" CONCRETE GRAVELLITE  
FINISH  
BEDROOMS SAME AS LIVING ROOM  
CEILING PLASTERED ON EXPANDED METAL  
LATHING  
WINDOWS CASEMENTS RATIO 1" 10TH TO HEIGHT  
IS AS 1 TO 12  
E.C. UNDER MAIN ROOF, RECTANGULAR  
MOVABLE  
HOT WATER PORTABLE BOILER IN WASH HOUSE.  
DRAINAGE, ACCORDING TO CIRCUMSTANCES, SHOULD  
BE BENEFICIAL, IF USED TO SUBSERVISE  
THE GARDEN

NOTE DE PLUME  
"CATHIDU"

By Miss E. D. Blacker.

ROYAL NATIONAL EISTEDDFOD HOUSING COMPETITION: WINNING DESIGNS CLASS C. (PRIZE DIVIDED).





## SPECIFICATIONS FOR PAINTERS' AND DECORATORS' WORK.

BY ARTHUR SEYMOUR JENNINGS, F.I.B.D.

(Continued from page 32, No. 1228.)

## ALTERNATIVE.

36. *Varnish Finish.*—Instead of enamel a coat of good outside copal varnish may be given. If the finish is to be white or a very light tint a pale varnish must be specified.

*Old Woodwork Exterior.*

37. *Note.*—The specification for repainting will be the same as that given under the head of New Woodwork, excepting in two important particulars, viz., the preparation of the old surface and the omission of the priming coat. The specification can only be determined after a careful examination of the condition of the surface, and the following will cover most of such conditions.

38. *Good Conditions.*—Rub down with pumice stone and water, clean off, putty, and touch up where necessary, and give two coats of the paints or enamels before mentioned.

39. *Fair Conditions.*—Same as the foregoing, but give three coats. If the work is very absorbent the first of these must be mixed with a large percentage of oil.

40. *Bad Conditions.*—Strip off all cracked, blistered work by means of burning-off lamp or a neutral paint remover. Rub down with pumice stone and water and with glass paper to a perfectly level surface. Stop, clean off and give three coats as before.

*Note.*—The stripping-off of old paint to the wood will not in practice remove all the priming coat which, being fixed into the pores of the wood, will be found to be almost unaffected. The repainting will therefore not include a priming coat, although when the surface necessitates it more oil than mentioned should be used.

41. *Paint Removal.*—The removal of paint on the outside is usually done by the torch, and on the inside by means of a paint solvent, as there are no fumes.

*Old Woodwork Interior.*

*Note.*—The specification may follow exactly the same lines as that given under "Exterior Work," excepting that there is no necessity to use white lead; lithopone is cheaper, covers better, and is quite as durable, while it possesses the advantage of being non-poisonous.

*Various Finishes for New and Old Inside Work.*

42. *Flat Finish.*—Two, three, or four coats of oil zinc paint to be applied, the last one under the flatting being mixed with a preponderance of oil, so as to dry glossy. When this is "tacky," i.e., dust dry, but not hard, apply a coat of zinc oxide tinted as desired and mixed with turpentine (no oil) and a few drops of gold size.

43. *Eggshell Gloss.*—This semi-gloss can be obtained in the same manner as above, excepting that a little copal mixing varnish is added to the finishing coat instead of gold size.

44. *Flat Enamel.*—An alternative method is to use a ready prepared flat enamel for the finish.

45. *Varnish Finish.*—Work that is to have a varnished finish will be prepared in the same way as above, but the last coat under the varnish must be mixed without oil, so as to dry flat.

This surface is then to be varnished for a finish.

*Alternative for Best Work.*—Prepare the work as before, and apply a coat of carriage rubbing varnish. When quite hard rub down with powdered pumice stone and water applied by means of a piece of felt. Thoroughly wash off, and when dry give one coat of copal cabinet varnish.

*Cement or Stucco (Outside).*

46. *Portland Cement and Stucco.*—All new cement work made of Portland cement is to receive two coats of sulphate of zinc dissolved in an equal weight of water. The first coat of paint is to consist of 65 per cent. of white lead, 30 per cent. oxide of zinc, and 5 per cent. of red lead. This is to be mixed with 80 per cent. of linseed oil and 20 per cent. of turpentine. Four coats of paint are to be applied, all of them being made from the admixture of pigments above described, but the red lead is to be omitted. The linseed oil and turpentine are to be varied in the proportions used so as to give a glossy and semi-flat surface alternately. The finishing coat is to be mixed with 10 per cent. of copal mixing varnish.

*Note.*—The durability of the paint film will be greatly increased if the Portland cement is rendered waterproof by the addition of "Pudlo."

## ALTERNATIVE.

47. *Wash for Cement and Stucco.*—The cement work is to be brushed down, and is then to have two coats of a wash made as follows: Mix separately 2 parts of plaster of Paris, 2 parts of slaked lime, and 20 parts of best Portland cement with water to the consistency of cream. Stir and strain each material, and mix together. Melt one part of good Scotch glue and add to the above. Then put in a small quantity of powdered alum. Thoroughly mix and again strain. The surface of the cement is to be thoroughly wetted before the wash is applied.

*Note.*—This wash may be used also for brickwork or other surfaces. A pleasing series of tints may be obtained by adding such earth colours as yellow and red ochres, Indian and Venetian reds, iron oxide, ultramarine blue, lime green, umber, sienna, etc.

*New Plaster Work (Inside).*

## DISTEMPER.

48. *Preparing Surface.*—The plaster work is to be carefully rubbed down smooth, and cracks, if any, to be filled in.

49. *Claircolle.*—A coat of claircolle, i.e., size to which a little distemper has been added, is to be applied while hot.

50. *Distemper.*—Two coats of distemper of approved tints to be applied with a perfectly uniform finish free from laps or streaks. The colours used are to be lime-resisting, and are to be added in pulp form to the bulk of whiting, the mixture being carefully strained.

51. *Hot Plaster.*—Surfaces which are "hot" or very absorbent to receive a coat of special paint made of half oil and half turps.

## ALTERNATIVE.

52. *Washable Distemper.*—Instead of distemper 2 coats of "—" brand of washable paint of approved colours are to be applied and to be mixed strictly in accordance with the manufacturers' instructions.

*Old Plaster Work.*

53. *Making Good.*—All breakages and defects are to be made good with pat plaster, and then to be carefully rubbed down to a level surface.

54. *Note.*—As the repairs to plastered walls have probably been done from time to time with different kinds of plaster, the only safe way is to line the whole surface with paper, which forms a good background for distemper or flat finish. Such a wall is almost always more or less irregular as to surface, and the finish, whatever its nature may be, should be flat, i.e., free from gloss.

55. *Lining Walls.*—The plastered walls are to be lined with stout lining paper hung with butt joints and left smooth. Any stains, etc., are to have a coat of patent knotting well brushed out.

56. *Ceilings.*—The ceilings are to be carefully washed off to the plaster, cracks and defects to be made good with plaster of Paris or "Alabastine," and then to be claircolled and whitened with approved tints.

## ALTERNATIVE.

57. *Lining.*—The ceilings after having been washed off are to be lined with lining paper hung with butt joints.

58. *Stains.*—Any stains on the ceiling which are to be whitened are to be treated as follows: After a thorough washing two thin coats of patent knotting brushed out are to be given over the stains and a few inches beyond. Patches thus treated are then to be painted with zinc paint mixed with turpentine (not oil), and a few drops of goldsize.

*Painted Plaster.*

59. *Preparatory Coat.*—All new plaster, excepting Selentic and similar, patent plaster hereinafterwards provided for is to receive two coats of sulphate of zinc dissolved in any equal weight of water. Twenty-four hours to elapse between application of the second coat.

60. *Three-Coat Work.*—The plaster which is to be painted is to receive three coats of zinc oxide or lithopone mixed with the following proportions of oil and turpentine:—First coat, 90 per cent. oil, 10 per cent. turps; second coat, 60 per cent. oil, 40 per cent. turps; finishing coat, 80 per cent. oil, 20 per cent. turps, with the addition of 10 per cent. of good copal mixing varnish.

## ALTERNATIVE.

61. *Stippled Finish.*—For a stippled finish four coats to be given, the proportions of thinners used are to be: First coat, 56 per cent. of oil, 10 per cent. of turps, and 40 per cent. of varnish; second coat, 40 per cent. oil, 20 per cent. varnish, and 50 per cent. turps; the finishing coat, 30 per cent. oil, 20 per cent. varnish, and 50 per cent. turpentine. Each coat to be thoroughly dry before the next is applied. The last coat is to be laid on and uniformly stippled with a stippling brush.

## ALTERNATIVE.

62. *Flat Wall Finish.*—The walls are to be painted with a preparatory coat as above specified, and are then to receive two coats of ——— wall finish applied in accordance with the directions of the manufacturers.

(To be continued.)



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

SEPTEMBER 18, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1237.

## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in assisting the efforts of the Government Paper Controller to eliminate waste. This they may do in either of two ways—*

*1. By placing a direct subscription for the Journal with the Publisher, or*

*2. By placing with a newsagent an order for its regular delivery.*

Mr. Lloyd George's great speech at Manchester last Thursday a luminous flashlight was cast athwart domestic affairs, and there was a very particular reference to housing. A great lesson of the speech, he said, is that if Great Britain has to be roughly equipped to meet any emergencies of peace or war, the State must take a more constant and more intelligent interest in the health and well-being of the people. It has been revealed by the speech, he said, that we had used our human material "prodigally, foolishly, cruelly." He had asked the Minister of National Service how many more men we could have put into the fighting ranks if the health of the country had been properly looked after, and was staggered at the reply—"At least one million." He added that the vigour and the strength of the workers of the country have been unsatisfactory in pursuits where all conditions are favourable to the development of a fine physique—in agriculture, for example. "I solemnly warn my fellow-countrymen," he said, "that you cannot maintain an Empire with a C3 population." It was inevitable that should then mention first among the influences on the health of the people the character of the houses in which they dwell. He had to put this matter in a bald but telling truism: "You cannot bring up healthy people in unhealthy homes." Therefore, the problem of housing is the most urgent that awaits attention. "We have talked about it, we have played with it, for forty or fifty years, but it has never been fully taken in hand. . . . We have had Acts running into hundreds and hundreds of sections. We have had regulations which would fill a library. We have had the most attractive pictures of model dwellings and endless authorities. But you cannot sweep the waste land with forms; you cannot sweep away slums with paper; and you cannot cope with the needs of the people with red tape." This is all very elementary and commonplace as to its substance; but it is precisely the most rudimentary fact that is most likely to be ignored until a Prime Minister or other high officer of State gives it prominence by investing it with authority and eloquence.

Next to housing came, in the Prime Minister's speech, the matter of wages, which was briefly mentioned. We see, he said, that wages during the war have been raised, and we must see in future that labour is rewarded with wages that will sustain life in full measure, and that, as we have so often said, will enable the payment of a rent sufficient to command decent housing. We have always urged—and we cannot imagine that the Prime Minister would contest the point—that the first essential step towards raising the standard of housing is to raise the standard of wages, and that that would be abundantly justified all round.

because it would raise productive capacity; well-housed and well-paid workers being indisputably more profitable to employ than those whose energies are sapped by poor conditions of living. But what is of supreme importance is not the well-being of the individual worker, or the profit of the individual employer, but the welfare and prosperity of the State; the one set of conditions implying the other. And, as the Prime Minister hinted, healthy homes must not be neutralised by unhealthy workshops, nor vice versa. As he furthermore said, in his effective sententious way: "There must be healthier conditions in the workshops. Many of them are admirable. Many of them are tolerable, and many not tolerable. Bad health for the nation is bad business for all." Again a truism, but one that demands constant reiteration. Then as to reconstruction, there was nothing fresh to say; but it was a useful and an encouraging observation that "we must handle the problem of reconstruction boldly, . . . and all classes must be invited to assist." Improved transit is to play no mean part in it; and as this is a matter in which builders are most intimately concerned, they should be careful to keep closely in touch with it—get command of the proposed new light railways, for example.

The Ministry of Reconstruction's pamphlet on housing, which we mentioned briefly last week, is a very useful summary of the chief factors in the problem, and it embodies a succinct history of the national housing movement. It is recalled that the basis of the present law on the subject is the Housing Act of 1890, the provisions of which have been amended and enlarged by various other Acts, particularly the Housing and Town Planning Act of 1909; while many of the provisions of the Public Health Acts (particularly the Act of 1875) deal with housing questions. Their net effect, however, as architects and builders very well know, is largely prohibitory. On the whole, the various enactments with respect to building tend to restrict rather than to assist it; but now we are to get an Act that not only assists but compels building; and not until that Act becomes law shall we really know the full scope and intention of the State housing movement. In the meantime, the pamphlet issued by the Ministry of Reconstruction will help to keep alive the public interest in the movement, and to make familiar the principles involved and the issues at stake. Much supplementary legislation is foreshadowed by the appointment of the various committees enumerated in the pamphlet—one of the most important of them being the committee appointed by the Minister of Reconstruction, with the Right Hon. Henry Hobhouse as chairman, "To consider and advise on the practicability of assisting any bodies or persons (other than local authorities) to build dwellings for the working classes immediately after the war, whether by means of loans, grants, or other subsidies, and whether through the agency of State or municipal banks or otherwise." Another important committee (with Mr. J. P. Carmichael as chairman) appointed by the same Ministry is to inquire into the whole question of supply and price of materials; while Mr. Stephen Walsh presides over a committee on the question of by-laws, and Lord Hunter over that appointed to consider the legislation embodied in the Increase of Rent and Mortgage



Interest (War Restrictions) Act, 1915, and its amendments in relation to housing after the war, and to recommend what steps should be taken to remove any difficulties which may arise in connection with it. Other matters under consideration are possible amendments of the much-anathematised Part I. of the Finance (1909-10) Act, of Rating, and of adaptation of middle-class houses to meet the requirements of workers. All these subjects having been freely discussed in these columns, it is gratifying to find that the necessity for reform on the lines we have consistently advocated is now officially recognised.

\* \* \* \* \*

Cob building has been recommended by the Earl of Portsmouth at a meeting of the Devon Education Committee. Exactly what he meant by cob building was not clearly explained, but one gathers from his speech and from the debate upon it that something in the nature of mud huts was intended. Cob, he said, was to be found in all parts of the world, and "had many claims over stone and brick, being far drier than stone, and providing houses which, in his opinion, were most comfortable to live in." Has his lordship tried living in them? We should like to know; because merely vicarious experience is often very misleading. His lordship's preconceptions may have been flattered—a liability that is one of the penalties of his position. He moved that the County Council be asked to make a grant towards the formation of a class in cob-making. "He thought it was possible that a farmer and his son might learn cob-building, so that the cost of material for houses would be considerably reduced, and he was bringing forward this motion really in the interest of the farmer." We regret to see that the Committee agreed to the motion; for we are most decidedly at one with the member of the Committee who "thought they should keep out the idea that they were advocating putting up workmen's cottages in cob, because workmen would rise against it and say they would not have houses built of mud." Very little prescience goes to the confident affirmation that that is exactly what they will say, if the occasion arises, and small blame to them for saying it with the utmost emphasis. Lord Portsmouth means well, but, to the extent of his advocacy of cob-built dwellings he misapprehends the spirit of the times. Cob, *pisé-de-terre*, mud, may have satisfied the rude forefathers of the hamlet, but it is not good enough for a people who are fighting manfully for a country that, on the whole, has not been overkind to them. Cob may serve well enough for the construction of piggeries and the like, and it may be that to this extent the Earl is justified of his motion, and more particularly of his suggestion that farmers should be instructed in the art and science of it; but mud is no proper material for the habitations of human beings. It degrades by its very name, and that is why so many fanciful and evasive surnames are bestowed upon it. It is the plain duty of the Council to decline, politely but firmly, the Earl's reactionary and mischievous proposal. Farmers should not be encouraged in mud-larking in the name of education and at the public expense; and the mediæval idea of mud hovels for mankind should not be entertained for a single moment by a responsible public body. It is disheartening to find an education committee dallying with it.

\* \* \* \* \*

An Associate has thought it expedient once again to defend the architect against those who unjustly hold him responsible for work he never did, for crimes he never committed. A writer in the "Daily Mail" had suggested that "the houses women don't want are designed by architects," and the Associate feels it incumbent upon him to repel the slander. Nearly always, he declares, with irrefutable truth, the small

house tenanted by the working man is designed the speculative builder. It is useless to deny this, the Associate's further assertion that "the house woman wants is not always the house she or her husband is willing to pay for"—a wise saying that applies with equal force whether she is renting, purchasing, and whether she has command of large means or only of small. Always she wants something better than her money will buy, whether her purse be fat or flat; always she blames the architect for the defeats which she inflicts on herself by desiring more than she is able or willing to pay for. To hear women and architects talking about each other, one might assume that they were natural enemies, or at least sworn rivals. Unfortunately "A.R.I.B.A.'s" letter to our contemporary does but embitter the quarrel; for he employs a method of which lovely woman understands just enough to hate it with all her heart: he uses sarcasm. In this odious vein he avers that "the architect is well aware of the advantage of a large scullery and of a bathroom. . . . Again, it is unfortunately a fact that, whereas some tenants appreciate a bathroom, others look upon the bath as a convenient receptacle for coal. It is really not a case of architects being in need of instructions from housewives in the elementary principles of planning. They are not usually consulted when this type of house is built; and when they are, they have to consider costs and the happiness of the tenants." Altogether what the "housewife" might be excused for calling "a nasty old Unwelcome truths, ironically expressed, are not likely to placate the eternal feminine, whose triumphal rejoinder to the statement that there was no architect is, "Well, then, there ought to have been, but if there had been, he would only have made matters worse." Agreement with her is hopeless. But it is imprudent of "A.R.I.B.A." to mention the bath as a receptacle for coals. In the coming winter, warm baths may not be possible; and persons who are eager to get in a supply of coal, but have inadequate storage for it (more planning!) may jump at an idea that might not otherwise have dawned upon them.

\* \* \* \* \*

There is much to be said for the contention that the memorial should be unmistakably such, and that the completion of a church or other building does not fulfil this condition. There are, however, conditions to which the objection does not apply. At Hampton-on-Thames, for example, it has been decided that cottages for disabled soldiers shall be erected as a memorial. Their origin and purpose, being in the highest degree honourable, can be legibly recorded upon them without detriment to the design and most certainly without degradation to the occupants. A row of almshouses—a word that has been held, rather fastidiously, to convey some sort of stigma of which, for our part, we can find no trace even when we examine the object through a microscope—a certain stone commemorating the pious founder and exposing his object is often made a decorative feature gratifying the eye as well as satisfying a very legitimate curiosity. On the other hand, it may be made intensely ugly as to put one out of conceit with the whole row of cottages that it dominates. Sometimes it is carved and gilded and lettered lovingly by an artist, perhaps introducing the grace of heraldry and the charm of some quaint motto. One could understand the occupants trying to live up to it, looking to it with pleasure, and deriving from it an inspiration to cheerfulness, every day of the autumn of their life. On the other hand, some such curt and crude label as "Buggins's Charity, 1824," blights all the area within its deadly range. We like the idea of memorial cottages for disabled soldiers. They should be the best kind of cottages that a first-rate architect could design.



## HERE AND THERE.

IN this country, philanthropy is never without witness. If it can be coupled with five per cent., so much the better; the alliteration is as pleasant to some ears as the jingle of coins is, or was, to others. Good deeds done and nobody a penny the worse is beneficence twice blest. My compliments, then, to the five-per-cent. philanthropist, and also to the speculator who puts up decent dwellings for the workers without putting a penny on the rates; which is more than the best regulated corporation can do. I love them equally, but I do not think they love each other. Yet it is not easy to see why they should be rivals. Their work does not seem to clash: for whereas the speculator specialises on cottages which he calls villas, the fancy of the philanthropist always points towards flats; the habit of founding almshouses being seemingly extinct, the more's the pity. It will be revived, with a difference, when the present ultra-barbarous system of herding the poor in tragically ugly workhouses gets its quietus: for then the cottage system will be indefinitely extended. To the ingenious theory that they must be made as ugly and as unattractive as possible, to prevent their becoming unduly popular, who but a Prussian would subscribe? Deliberately and intentionally to make anything ugly and forbidding is a crime that should be punished by fine and imprisonment. It is constructive assault, and the penalty against it should be continuous as long as the offensive building (say) remained a standing menace to the moral health of the community. Alas! that the functions of the inspector of nuisances should be confined to what is grossly physical, ignoring completely the most poignant occasions of spiritual suffering.

Onwards from about the middle of the nineteenth century, the philanthropists, or the friends of man, or the meliorists, or by whatsoever name they were known, were wont to band themselves together to try whether there was any virtue in the proverb that union brings strength. Their efforts culminated sometimes in a building, sometimes in a book. Usually the book was a collection of essays by various hands, for all had the copiousness of a Chadwick, a Simon, a Playfair, a Benjamin Ward Richardson, each of whom could, and I believe did, easily produce a volume off his own bat. Among the most notable of these collections of essays was a volume called "Meliora: Better Times to Come. Being the Contributions of Many Men Touching the Present State and Prospects of Society. Edited by Viscount Ingestre." It was published, in 1852, by our old friends John W. Parker and Son, to whom we have been indebted for many notable books on architecture; although the only hint of this special bent that is conveyed in the title of their "new books and new editions" thoughtfully inserted at the end of "Meliora" is an announcement of the third edition of "Notes on German Churches," by the great Dr. William Whewell, Master of Trinity College, Cambridge, who was affectionately and rather irreverently known to his undergraduates as "Billy Whistle." Whewell's book, I believe, is still as useful as a chronicle of the personal impressions of a man of exceptionally powerful mentality, who, with all knowledge for his province, dogmatised courageously and emphatically on every subject that he thought worthy of his attention. He even descended to architecture.

Viscount Ingestre was at that date president of The General Society for Improving the Dwellings of the Working Classes." He was also of the 1st Life

Guards, which was a very good regiment for him, seeing the fervour of his interest in the bills of mortality. He is one of the twenty contributors to the book. Last but not least among them is the ineffable Martin Tupper, whose sorry doggerel on "The Homes of the Poor" would have been summarily slain by any Life Guard jealous of his title. Here is one of its five exasperating stanzas:—

Cleanliness, healthiness, water, and light,  
Rent within reason, and temperate rules,  
Work and fair wages (Humanity's right),  
Libraries, hospitals, churches, and schools:  
Thus let us help the good brother in need,  
Dropping a treasure at Industry's door,  
Glad, by God's favour, to lighten indeed  
The burdens of life in the homes of the poor.

Excellent sense and high morality; but why it was measured off in lengths and end-stopped with rhymes will never be known with certainty in this perplexing world; nor can it be guessed what could have come over the Earl to induce him to print such rubbish in an otherwise respectable book. One suspects feminine influence; for the ladies, dear souls (being notoriously deficient in the sense of humour) could never understand man's brutal laughter at the Silas Weggisms of the egregious Tupper, laureate of banality, but the "best seller" of his day. In a manner, he seems to have sold Viscount Ingestre.

There is more real poetry in the contributions of the Hon. and Reverend Sidney Godolphin Osborne (the famous "S.G.O.") on "The Beershop Evil." He had a fine romantic scheme for improving the beer-shops, but it does not concern us here and now. It may be worth while to mention, however, his perception that bad housing accommodation drove men to the public-house. "It will not be denied," he says, "that when there are two or more grown-up young men in a labourer's family still resident with the parents, their presence during a whole winter's evening in the one sitting-room is most inconvenient. There are many things to be done in the family of a poor man which must be done at the one fire, and the doing of which is neither decent nor convenient when the room is crowded by young men." I suppose that if they had twice the accommodation at home, they would still prefer the public-house, not because they love beer, but because they are sociable.

In "Meliora" the articles include education, food adulteration, crime and its prevention, thrift, model and common lodging-houses, jails (viciously spelt gaols), and pawnbroking; but, curiously enough, there is no article on poor-law administration. There is, of course, an article "On Improving the Dwellings of the Poor," by the Hon. F. Byng, and there is another, by Henry Mayhew, one of the authors of "London Labour and the London Poor," entitled "Home is Home, be it Never so Homely." Upon these I can touch but briefly. They would be of more value as showing what stage or phase the housing question had reached some seventy years ago, and, inferentially, how far we have advanced since then, if they had been of more practical character; but unfortunately they consist mainly of exhortation and disquisition, thus illustrating by anticipation the Prime Minister's remark, in his great speech at Manchester last week, that "we have talked about it [the housing problem], we have played with it, for forty or fifty years, but it has never been really taken in hand."

DIODENES.



## COMMUNITY OF INTEREST IN THE BUILDING TRADE.

BY A LONDON MASTER BUILDER.

MR. A. G. GARDINER, writing recently on the position of the industrial world, after four years of warfare, said, "Four years ago the bottom fell out of civilisation." However this may be, it is generally agreed that, after all that the war has taught us, the old trade relationships will not hold.

Of our nation, it can be truly said that the flower of its youth marched as free men to set humanity free from tyranny. It is on the foundation of their self-sacrifice that we must build for a future better world. Shall we not accept this as an obligation, and agree with Mr. B. Seeböhm Rowntree that when the war is over it will leave us with a debt to the dead which must be paid to the living in terms of life and health and opportunity? This ideal is surely being followed by those who have been responsible for the inception of the Industrial Council for the Building Industry (Building Trades Parliament).

What can we hope for from this new organisation? We find in the preface of its constitution that it is the outcome of a desire on the part of organised employees and organised operatives to render their full share of service towards the creation of a new and better industrial order.

The admission is made that the old system is a failure through its antagonisms; and it is further conceded that the rise of trade unions and of employers' associations to oppose or counteract them tended to a state of suppressed (and occasionally unsuppressed) war. It is indisputable that the two sides met only to settle claims, such meetings being as between two hostile bodies. While admitting that the total elimination of occasions of conflict may be quite impossible, the conclusion of the preface sounds a stirring note of hope, and is so pregnant with truth that it may well be recalled, although it is already familiar to the readers of this Journal:—

"The hope of the future undoubtedly lies in the intimate and continuous association of both management and labour, not for the negative purpose of adjusting differences, but for the positive purpose of promoting the progressive improvement of their industrial service, from which alone the national prosperity can be derived.

"Industrial peace must come, not as a result of the balance of power, with a Supreme Court of Appeal in the background; *it must arise as the inevitable by-product of mutual confidence*, real justice, constructive goodwill. Industry needs no truce, no compulsory arbitration, no provisions for postponement of disputes. What it needs is confidence and a courageous forward movement, supported by the constructive genius of both sides in common council. No one engaged in constructive work can fail to respond to the tremendous call of the big job, and the task to be faced to-day is the greatest problem in social engineering that the world has ever seen. It is believed that the common interests of industry will be found to be wider and more fundamental than those which are still, admittedly, opposed: and it is upon the broad basis of these common interests that the fabric of the new industrial order may be confidently raised."

The Council is composed of 132 members. On the employers' side are thirty-two, representing nine employers' federations throughout the country, twenty members from seven federations of National Associations of Building Trade Sub-contractors, four members of the Institute of Builders, and ten members of the Scottish National Building Trades Federations. On the operatives' side are fifty-six members of seventeen trade unions and ten members of the

Scottish operatives. Can this Builders' Parliament be deemed complete without any representation of organised architects? We know that there are architects keenly alive to industrial problems who would be willing to serve. Have they been invited? Must one assume that even the great war has not been sufficient to dissipate that air of sanctity that pervades the Institute, preventing its members from taking forward movement. In any case, this Journal certainly reaches their library, and one may hope that the invitation in its recent notes has been duly read.

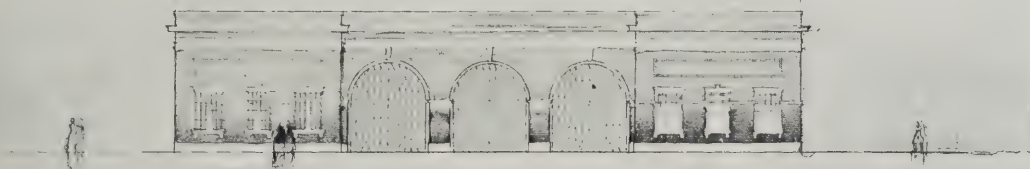
The objects of the Council as set forth in their constitution cover a wide field. But can these be adequately dealt with by a quarterly meeting, as the rules provide, though it is understood that committees are to be formed to deal with local or special matters?

The first question that occurs to one is, can a Builders' Parliament for the country deal with a trade which is so largely affected by local conditions? To be effectual it surely must follow Parliamentary lines, that is to say, the members must represent every district. Much sub-division will be needed, so that the movement shall thoroughly permeate the trade. Propaganda should be diligently employed. Do any appreciable proportion of the trade know of the effort for closer union? It should be the duty of a federation and every trade union to see that each of its members is made fully aware of the details of the movement. A full knowledge of procedure will do much to create mutual confidence, which is the one thing lacking. The smallest local meeting of management or workers will then send forward their recommendations to the next higher body, to be finally entrusted to its representative member for settlement by the Industrial Council. Only in this way can the united interests be properly brought before the Builders' Parliament. This to be effective must be a real live active body, meeting to decide vital matters and not a mere friendly "pow-wow" leading to nothing. Only by being a real power for mutual good will the Council create any confidence. All recent strikes show that labour has lost all confidence even in its own leaders. Deep suspicion is rampant. The creation of some mutual confidence must be the result of great effort.

In the past, personal considerations have come before main issues; this can be said of both sides. Have we not been looking for some great movement to come which will improve the conditions all round? This cannot come as a miracle. It must be a result of the strivings of each one. The "Spectator" recently commenced an article on "Preparations for Peace" by saying, "Lack of imagination is a capital fault in our politicians." Is this lack confined to politicians? British character has many good qualities, but does it not generally lack this essential to true progress in all classes? The men working for money will never bring about the improved conditions. Individual thought, planning, and joint conference can alone in the main bring about better understanding. Something is wanted from each one. As we confer so we improve our thought. Improvability is a characteristic common to men. As we strive to make continuous effort so we realise growth, which must not be withered away by contention.

We have reached the cross roads in the industrial world before victory in the field. There are undoubtedly influences at work which would guide us to the turning that leads to helpless wretchedness and ruin. We must, therefore, strive for the road, which however stony in its early stages, will lead us to the attainment of community of interest between

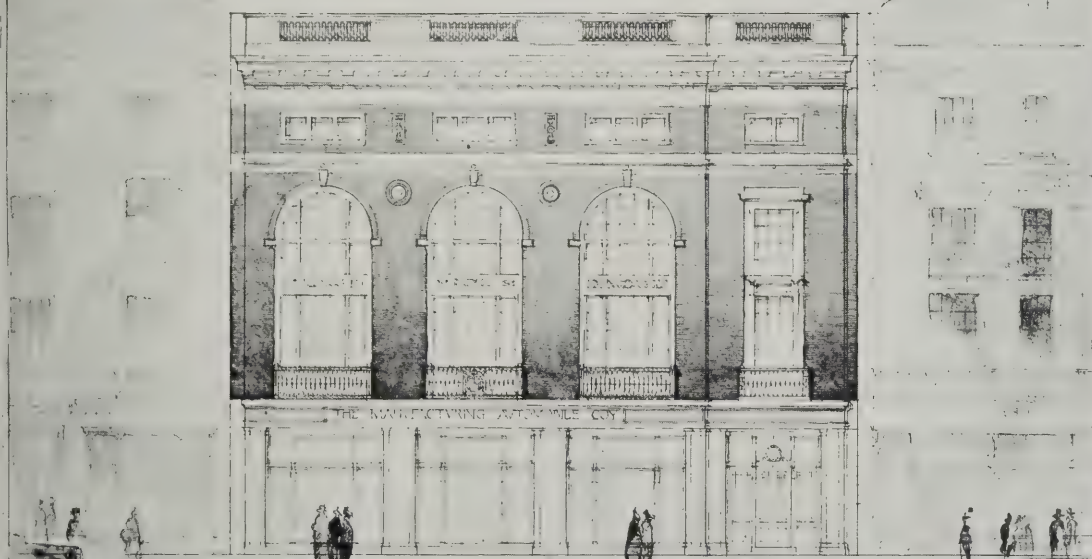
# A CITY SHOW ROOM AND OFFICES OF A MANUFACT- URING AUTOMOBILE COMPANY



*The Back Elevation*



*Scale of Feet*

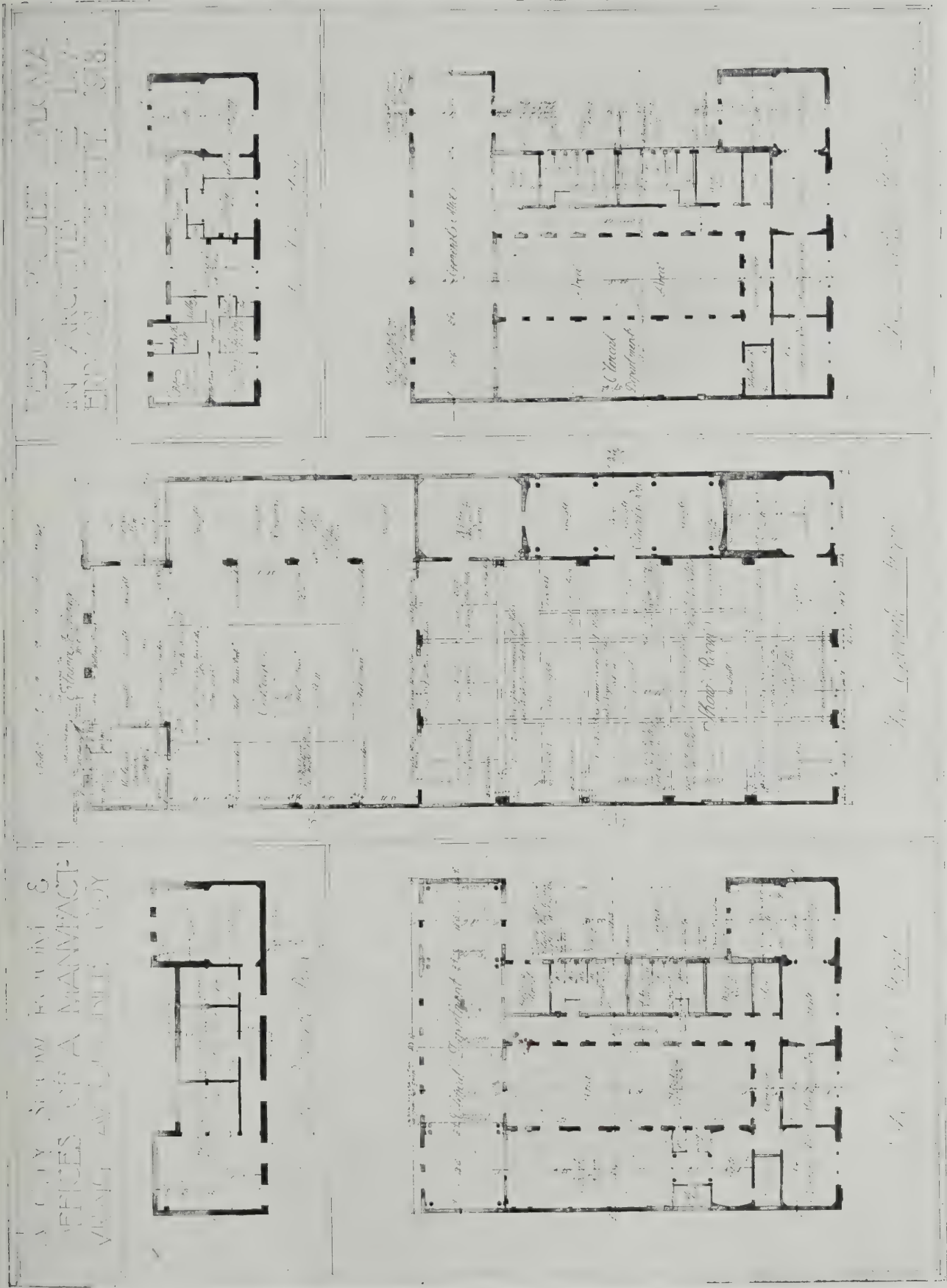


*The Front Elevation*

*Gordon Hemm, 1916, Oct. 1916, 1917  
Gordon Hemm, School of Architecture*



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STUDENTS' DRAWINGS (SERIES III.). XIII.—DESIGN FOR CITY SHOWROOM AND OFFICES OF A MANUFACTURING AUTOMOBILE COMPANY: PLANS.  
BY GORDON HEMM.



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DETAILS OF CRAFTSMANSHIP (SERIES III.). XXXVIII.—AN OAK PANEL (FRENCH: LOUIS XIV. PERIOD.)

(Reproduced by courtesy of the Director of the Victoria and Albert Museum.)



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At Angoulême.





range.

TS OF THE WAR OF 1870-71.



At Caen.

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employers and employed. Let us not grudge the time and trouble in finding the road. Mr. Clynes has recently said, "The will of the people is enduring and beneficial expression only when it is social changes by reasonable and calculated movements, and not by any violent act of revolution." To avoid mistakes in social changes we have history before us, and some of it is recent enough to be understood by all.

## THE PLATES.

*Designs for a Manufacturing Automobile Company.*  
THE drawings reproduced below and on two of the supplements in this issue are the Diploma work of Mr. Gordon Hemm, of Liverpool University. The conditions and requirements were as follows:—A rectangular level site, 80 ft. wide and 180 ft. deep, between buildings four stories high on an important shopping street. At the rear access may be obtained from a back street parallel to the main thoroughfare. Accommodation.—Basement: Heat and ventilating plant, fuel store, etc. Ground floor: Showroom for twenty-five cars, clients' room, staircase, garage, repairing-shop, mechanics' storerooms, petrol store. First and Second Floors: Board room, managers' and secretaries' rooms, clerical department, lavatories. Third Floor: Caretaker's rooms. Drawings required (pencil and wash): Front and back elevation, longitudinal and transverse sections, and five plans.  $\frac{1}{8}$  in. scale. Two working

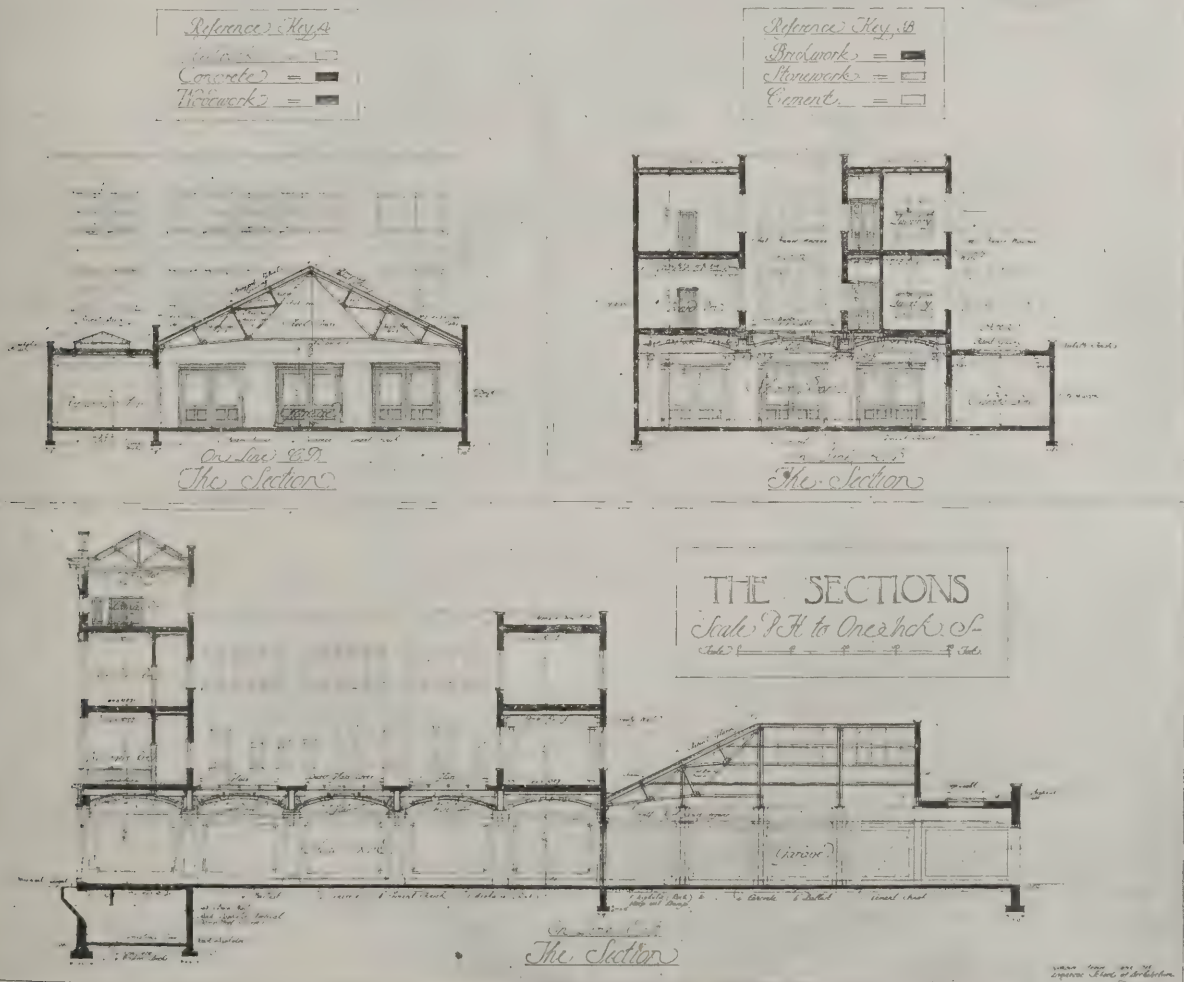
drawings dealing respectively with the showroom and front elevation.  $\frac{1}{2}$  in. scale: double-elephant size. Lack of space prevents our reproducing the author's analysis of the requirements.

### *A Louis XIV. Panel.*

This panel, belonging to the period of Louis XIV. (late seventeenth or early eighteenth century), is of oak, carved in openwork with a shell-shaped device in the centre, surrounded by scrolling bands and leaves symmetrically arranged. A mere fragment, it affords by the intricacy and elaboration of its detail, not only good evidence of the skill and capacity of the Louis XIV. craftsman, but a material clue to the extravagant taste and immoderate habits of life during one of the most remarkable periods in French history.

### *French Monuments of the War of 1870-71.*

These are three notable memorials of the Franco-German War. The first, at Angoulême, is composed of an obelisk and a female figure, the latter, with her look of mingled sorrow and resolution, being wonderfully expressive of the fine dauntless spirit of France. The monument at Orange is of quite a different class, though there is equal strength and dignity in the symbolism. The pedestal is a graceful piece of work—well designed and richly decorated. The monument at Caen is of the Néo-Grec order, a sturdy obelisk forming an effective background for the figure of a stricken soldier reeling back among the fluttering folds of a standard.



DESIGN FOR CITY SHOWROOM AND OFFICES OF A MANUFACTURING AUTOMOBILE COMPANY: SECTIONS.

BY GORDON HEMM.





## WAR BUILDINGS SECTION.

### HOUSING BY PRIVATE ENTERPRISE.\*

1. In their Reports on Housing issued during 1916 and 1917 the Surveyors' Institution referred to the urgent necessity of securing the co-operation of every form of private enterprise if the admitted shortage of working-class dwellings was expeditiously and adequately to be met, and submitted proposals which it was thought would have the effect of inducing private builders and other agencies again to devote their energies to this class of undertaking. Reports having a similar object were also drawn up by professional and trade societies and others, including the Auctioneers' and Estate Agents' Institute, the Building Societies' Association, the National Federation of House Builders, and Committee of the National Conference on Housing after the War; and the recommendations have been laid before the Local Government Board by deputation and other means.

2. In a circular dated March 18, 1918, the President of the Local Government Board and the Secretary for Scotland made a definite offer to local authorities in Great Britain, prepared to undertake the erection of working-class houses, to the effect that the State should share to the extent of 75 per cent. in any loss of income for a period of seven years, or to a similar extent in any depreciation in the value of the property at the end of that period, which might be due to the fact that the cost of building immediately after the war was likely to be considerably in excess of that which might be anticipated when things had settled down to after-war conditions.

3. It was obvious that even if such an offer were extended to public utility societies or private individuals it could not be effective, in that they would be bound to view such an undertaking from a business standpoint; although the co-operation of

such agencies is of the utmost importance in view of the fact that, given even facilities, and owing to their being able to buy in the open market without being tied down by exact specifications, and to their possessing the necessary plant and organisation, they might be expected for the same outlay to provide a larger number of approved houses than local authorities.

#### *Societies Represented at Conference.*

4. The Surveyors' Institution, therefore, determined to focus the view of the bodies mainly interested in insuring the support of private enterprise in meeting this national need by means of a conference, in which the following took part:—

The Auctioneers' and Estate Agents' Institute ... ..	3,000 members
The Building Societies' Association ... ..	209 societies†
The Federation of British Industries ...	846 members
The Garden Cities and Town Planning Association .. ...	80 societies
The Land Agents' Society .. ...	1,332 members
The Committee of the National Conference on Housing after the War ... ..	100 "
The National Federation of Building Trades Employers ...	6,000 "
The National Federation of House Builders ...	400 "
The National Federation of Property - owners and Ratepayers ...	13,750‡ "
The Royal Institute of British Architects ...	4,336 "
The Surveyors' Institution ... ..	5,000 "

\* Report of the Housing Conference convened by the Surveyors' Institution to determine what facilities would be required to enable all forms of private enterprise to take an adequate part in making good the shortage of working class dwellings after the war.

† These societies represent a membership of 382,577, mortgage assets £40,847,390, and other investments £6,017,626.

‡ There are 69 affiliated associations.

5. The Conference have not thought it requisite to enlarge upon the necessity of securing the co-operation of private enterprise in the work of housing, the requirements of the country both in making leeway and in meeting the annual demand of a growing population being likely to tax to the full the energies of every form of housing effort. Even those who have an extension of the activities of private bodies in this direction have hardly ventured to suggest that the stupendous task of providing the whole of the dwellings necessary to house the working class could satisfactorily be undertaken by their agency; and the opinion is generally accepted that an effort should be made to induce those who in the past have been mainly instrumental in carrying out the work, to assist in meeting both the emergency and the needs of the future.

#### *Financial Assistance Necessary.*

6. The Conference unanimously agreed that under existing conditions no form of private enterprise could take its part in building working-class houses unless adequate financial assistance were made available. They then proceeded to consider the form or forms of financial assistance which would be required (1) to meet the anticipated difference in the cost of building at a time of exceptionally high prices and the subsequent estimated cost of the same houses on things settling down to post-war conditions, hereafter referred to as "the extra war cost," and (2) to provide the capital ordinarily required for building operations.

7. Dealing first with (1) the Conference are of opinion that the problem is best dealt with by—

(a) A grant from national funds to all agencies which erect houses according to approved schemes during the transition period;

(b) Such grant should represent the extra war cost as defined in paragraph 6;

(c) The grant should take the form of a



stage to be applied to the actual cost of houses erected in accordance with approved schemes;

The percentage should be calculated relating to the relation between the estimated extra war cost defined in paragraph 6 and the estimated average cost of one of the houses of the character provided;

The percentage should be adjusted accordingly for new schemes to meet the existing conditions during the transition period.

Each scheme should have the advantage of simplicity in procedure and, by making the agency responsible for building known beforehand the extent of the assistance to be received, would permit the course of business by sale or otherwise to be followed.

In considering proposals made with a view to meeting the anticipated loss of building during the transition period, the Government should, in the opinion of the Conference, approach the problem from the standpoint of national requirements. The Conference recognises that there exists a very proper determination on the part of Parliament not to divert the use of public funds for the purpose of merely private profit, as expressed in the speech of the President of the Local Government Board in the House of Commons on May 2; but would urge that the proposal made in the preceding paragraph could not properly be condemned on the plea that the Government's expenses, which would have to be taken into consideration in calculating the cost of the houses, would include remuneration for his own energies, since the latter necessarily be allowed in order to place him on an equality with a contractor engaged for a local authority. The temporary difficulty referred to above seems to disappear if it is remembered that it is the precedent of the Corn Law Act and the controlled establishment which is followed, and the Government guaranteed in this case, not a profit but merely against loss in his endeavour to supply a national need.

#### *Alternative to Financial Grant.*

If, unfortunately, it should prove impossible to overcome the Parliamentary difficulty in the way of a definite financial grant, the Conference are of opinion that minimum State assistance necessary to private enterprise must make good the loss of income during the transition period on the basis of the market rate of interest for the time being and loss of interest at the end of that period. As previously stated, an offer to meet merely a portion of such loss could not secure the co-operation of agencies bound to view the undertaking from a business standpoint. Loss of income would be calculated by comparing the net return in the form of rent with the interest at the borrowing rate on the ascertained cost of the houses and should be met by a grant sufficient to meet the estimated annual deficit. Making capital loss the ascertained cost of the house or houses, which should be added upon the fair and usual cost of building similar houses under contract, to be measured against their value, as determined by a willing buyer and a willing seller at the time the valuation was made. In order to remove the obstacle to the building in the newly erected houses which would be caused were it impossible to make good the probable loss until the end of the transition period, it is suggested that the loss be officially placed upon any pro-

perty included in an authorised scheme should be ascertainable by intending sellers at any time during that period. In the event of a purchaser being found, the figure at which the sale would take place should be approved by the Government authority, for which purpose the services of the special Housing Committees referred to in paragraph 16 might be called into requisition; and on the completion of the purchase any capital loss, calculated in the manner indicated above, should be paid and the property be withdrawn from the scheme.

11. When estimating the amount of the loss which might have to be met by the State under such a scheme, it should not be overlooked that after-war rents of existing houses must be subject to a considerable rise. Even if the continuance of some restriction on rents is found to be necessary, which the Conference hope may not prove to be the case, a considerable rise must still be contemplated, which would exercise an effect on the value of newly erected houses, the rental value of which would be in excess of that commanded by existing and less up-to-date buildings. This fact would operate to reduce the loss to be made good by the State.

#### *The Restriction on Rents.*

12. The Conference are of opinion that, in the event of the prolongation in any form of the existing restriction on rents proving to be necessary, the loss might be further minimised, and admit of lower rents being charged, if the pre-war standard of assessment for both imperial and local taxation were retained in respect of all houses not exceeding the following rateable values: £22 in the London area, £20 in Greater London, £14 in other urban districts, and £8 in rural districts; and that comparable houses to be erected should be assessed on the same basis. They contend that this concession might properly be made during the transition period in that the higher rents which would have to be charged, and on which assessments would in ordinary course be based, might reasonably be looked upon as attributable to the abnormal conditions which had largely increased the cost of new houses and the maintenance and other charges in connection with existing houses. At the end of that period the level of rents would have settled down to post-war conditions, and new assessments based thereon might properly be made. Such a proposal would throw no unfair burden upon localities, as no additional services would have to be provided owing to the fact that rents had had to be temporarily increased to meet exceptional circumstances.

#### *The Question of Capital.*

13. Turning now to (2), referred to in paragraph 6, dealing with the capital ordinarily required for carrying out the actual building operations, it seems obvious to the Conference that, in view of the shortage of capital which must be anticipated after the war and the great demands which will be made upon it, adequate arrangements must be made to enable the various forms of private enterprise to obtain the capital necessary to carry out their undertakings. It is true that if private enterprise is encouraged, and not put into unfair competition with public bodies, some part of the money required may be raised privately as hitherto, but in the opinion of the Conference the greater portion will have to be provided from public funds and in a manner which will enable those desirous of carrying through approved

schemes to do so expeditiously and without unnecessary formalities. For this purpose either special departments of existing banks or a Housing Bank, constituted by the Local Government Board under Treasury authority, would be likely to prove more effective, as being more directly in touch with the objects for which the capital was needed, than the ordinary sources through which advances of public funds are usually made. The closest co-operation between the bank and building societies would be desirable. The latter are in close touch with the financing of houses for personal occupation; they are specially interested in the success of the ventures for which they provide assistance; and their working expenses compared with turnover are exceptionally low. In the past their transactions have been mainly with the small builder or purchaser, but if adequate funds were made available the already existing organisation of these societies might quickly be extended to cover larger operations.

14. The advances for building operations should be made on reducible mortgages spread over fifty years, and on sale of a house or houses the proportionate outstanding balance of the mortgage should be transferable to the purchaser on conditions sufficient to safeguard the State from loss. Eighty per cent. of the cost of buildings, roads, sewers, and sites should be obtainable, the advances being made in instalments on the certificate of a qualified surveyor nominated, if desired, by the Local Government Board, at the rate of 66 per cent. of the cost of the work as it proceeds, with the balance on completion. Additional advances should be allowed in approved cases.

#### *Number of Houses per Acre.*

15. With regard to the proposal which has been made that houses should be limited to twelve per acre, the Conference would point out that in certain cases land in process of development under schemes approved by local authorities has already been set out to allow of a greater number of houses per acre than that proposed, and that any change in such circumstances would be impracticable. Instances will also occur where the need for accommodation is great, and only small and isolated blocks of land are available. In such cases, assuming that a sufficient provision of open spaces to meet the requirements of the district has been made, a considerably larger number of houses per acre should be sanctioned, and still enable sanitary and pleasant conditions to obtain. The Conference are, therefore, of opinion that it would be inadvisable to lay down any general rule as to the number of houses to be allowed per acre, and would urge that each scheme should be considered in the light of the surrounding circumstances.

16. Full advantage should be taken of local knowledge in considering and authorising schemes, and this might probably best be done by setting up special housing committees, composed partly of elected and partly of co-opted members, possessing special knowledge and experience of the subject and acquainted with the needs and requirements of the district, so as to permit the Local Government Board to decentralise the work in connection with these housing schemes so far as possible.

17. The provision of cottages on rural estates offers a problem somewhat different from that met with in urban districts. On agricultural estates the cottages have usually been built by the landowners, who have looked upon them rather as part of



the equipment of the estate than as an investment from which a direct return should be expected. During the last thirty or forty years, owing to changes in agricultural methods, there has in some localities been less demand for cottages for occupation by farm labourers, with the result that some have been allowed to fall into disrepair, while others have been taken by persons not directly employed on the estates. With the return to arable cultivation, which is already in progress and is likely to be expedited in the future, more labour will be employed on the land and more cottages will be needed to house it. To meet such cases the Conference recommend the procedure set out in the following paragraph.

*Position of the Landowner.*

18. Where a shortage of houses for the needs of the parish or district is certified by the Board of Agriculture to exist, the owners of estates should, in the first instance, be given the option of themselves supplying the deficiency. Should they desire to exercise that option, they should be placed with regard to financial assistance, etc., upon an equality with local authorities or other agencies providing houses under approved schemes, the Board of Agriculture being in that case the sanctioning authority, and being given power to lay down conditions as to plans, water supply, garden ground, etc. If, on the other hand, landowners prefer not themselves to erect houses, the necessary sites should be obtainable by the local authority or other agency which undertakes the duty at the market price of the land, if necessary under compulsory powers. Should the shortage be found to be due to the housing provision for the ordinary requirements of the district being taken up by employees of the Government, local authorities, or statutory companies, those bodies should be required to supply suffi-

cient accommodation for their own needs in the event of landowners not exercising their option to build.

19. While the question of finance is the most important touching the problem under consideration, there are several other matters which may here be referred to as exercising a considerable influence thereon, viz.:-

- (a) By-laws;
- (b) Part I. of the Finance (1909-10) Act, 1910;
- (c) The Increase of Rent and Mortgage Interest (War Restrictions) Act, 1915;
- (d) Building materials and standardisation.

(a) Local authorities, on the recommendation of the proposed Housing Committee (see paragraph 12) and with the sanction of the Local Government Board, should be encouraged to amend or remit any local by-laws dealing with the construction of houses or streets which appear unduly to hamper housing schemes, or to check the use of new, improved or cheaper methods of construction. It is hoped that the reports of the Departmental Committees dealing with these matters may contain recommendations which will assist the objects in view.

(b) Part I. of the Finance (1909-10) Act, 1910, has from the first exercised a prejudicial effect on housing, owing not only to the amount of the tax imposed upon the industry, but also to the feeling of insecurity and alarm aroused by a measure which its supporters threatened to be merely the forerunner of still more advanced legislation. Whether there was good ground or not for these fears is entirely beside the mark, since the atmosphere of uncertainty was in fact created, causing investors and capitalists to fight shy of house property as an investment and influencing mortgagees to review their security, and, in many instances, to revise their terms. Building operations of this

kind are largely carried on by means of borrowed capital, with the result that grave inconvenience was caused to borrowers, while later the holding back of financial help imposed a powerful check upon this type of building operations. The Conference have endeavoured to view the question from an entirely impartial standpoint, and have arrived at the conclusion that the removal of the provisions dealing with increment value duty, reversion on and undeveloped land from Part I. of the 1910 Act is necessary if capital and individual energy are again to be attracted to the erection of working-class dwellings as an investment.

(c) The Increase of Rent and Mortgage Interest (War Restrictions) Act has been referred to in the earlier portion of the Memorandum in connection with the increase in rents which has been made inevitable by the increase in the cost of upkeep of the rate of interest on capital. It is difficult at present to foresee the conditions likely to prevail at the end of the war, but sufficient certainty to enable a reasonable opinion to be formed as to whether a return to complete freedom of contract, which, in ordinary circumstances, would generally be welcomed, may be expected, but it is obvious, at any rate, that an amendment of the Act, permitting an increase in mortgage interest to be raised, would be necessary. It has been suggested that if the complete removal of all restrictions does not prove practicable immediately after the war, the 1915 Act should be amended to permit an increase in mortgage and mortgage interest by a percentage sufficient to meet the average increase in cost of maintenance and other charges since the standard rents came into operation.

(d) In the event of any preference being shown in respect of building materials proving necessary after the war, it would be essential that all forms of private enterprise should



POWER HOUSE OF THE SUSQUEHANNA COAL COMPANY, NANTICOKE, PENNSYLVANIA.

(See also next page.)



ced in a position of equality with bodies as regards price, distribution, priority of delivery. A Departmental Committee of the Ministry of Reconstruction at present investigating (1) the conditions prevailing throughout the country towards the stocks and production of all materials of building materials, and (2) the probable demand for all classes of materials during the transition period after cessation of hostilities. It is hoped that this inquiry may prove of value in suggesting not only new sources for the supply of those materials already in general use but new materials and new methods of construction which may tend to cheapening. Standardisation of parts, too, may do something to lessen cost, while the use of local materials and methods, which may often be employed to advantage, should be encouraged.

The Conference have confined attention to discussing the inducements, financial and otherwise, which may be expected to encourage private enterprise again to take its part in providing for the working classes. To secure the sources from which the State may procure the funds required to supply the necessary financial assistance must be looked upon as outside their province, but they would suggest that the measures advocated by Mr. E. M. Gibbs, F.R.S., and others, be considered.

## MODERN POWER PLANT.

The accompanying illustrations show a power plant at the No. 7 colliery of the Susquehanna Coal Co., Nanticoke, Pennsylvania. The boiler-house is situated 400 ft. from the No. 7 breaker and 100 ft. from No. 1 shaft, which is the main opening in its vicinity. The boiler-house, containing ten batteries of boilers, 500 h.p. to the battery, is 186 ft. long and 94 ft. wide. The centre line of

stacks is 6 ft. outside the building proper. There are in all ten stacks, each 5 ft. in diameter and 100 ft. high. These are placed upon masonry foundations 9½ ft. square, the tops of which at some points are 22 ft. above the ground level. Attached to the north end of the house is an addition, 52 by 32 ft., in which the fans and engines for driving the auxiliary machinery will be placed.

The boiler-house is well lighted by glazed windows, the total lighting area being approximately 30 per cent. of the area of the sides of the building. The structure is fire-proof, the framework being of steel, and the roof and sides of Hy-Rib covered with a coating of plaster. The floor is of concrete poured over Hy-Rib resting on H-beams supported by the boiler foundations.

The foundations of the boiler settings is of concrete construction of a 1:2½:5 mixture, resting on a sub-base 2 ft. thick. This foundation incloses the air duct, flue-dust pits, and ashpits, also the ash-conveyor trough.

Ten batteries of boilers, five on either side of the boiler-house, supply steam to various points about the colliery. Each battery is composed of two units of 250 h.p. each. Babcock and Wilcox boilers are employed, each unit consisting of two drums, 3½ ft. in diameter and 24 ft. long, each drum having attached fifty-six 4-in. tubes.

All the boilers are stoked mechanically, it being possible to operate the entire plant with three men—a water tender and two firemen. The Coxe travelling chain grate stoker is used in all settings. This grate has a surface of 90 sq. ft., being 9 ft. wide and 10 ft. long. It moves at a speed of 12 to 23 ft. per hour.

The boilers are operated under forced draft applied at present by two 9-ft. fans. When the plant is completed, however, the draft will be furnished by two fans of small diameter to be placed in the addition at the

north end of the house. Air is carried from the fans through a tunnel 13 ft. 4 in. by 7 ft. in dimensions, and is admitted to the firebox under a water gauge of approximately 1½ in.

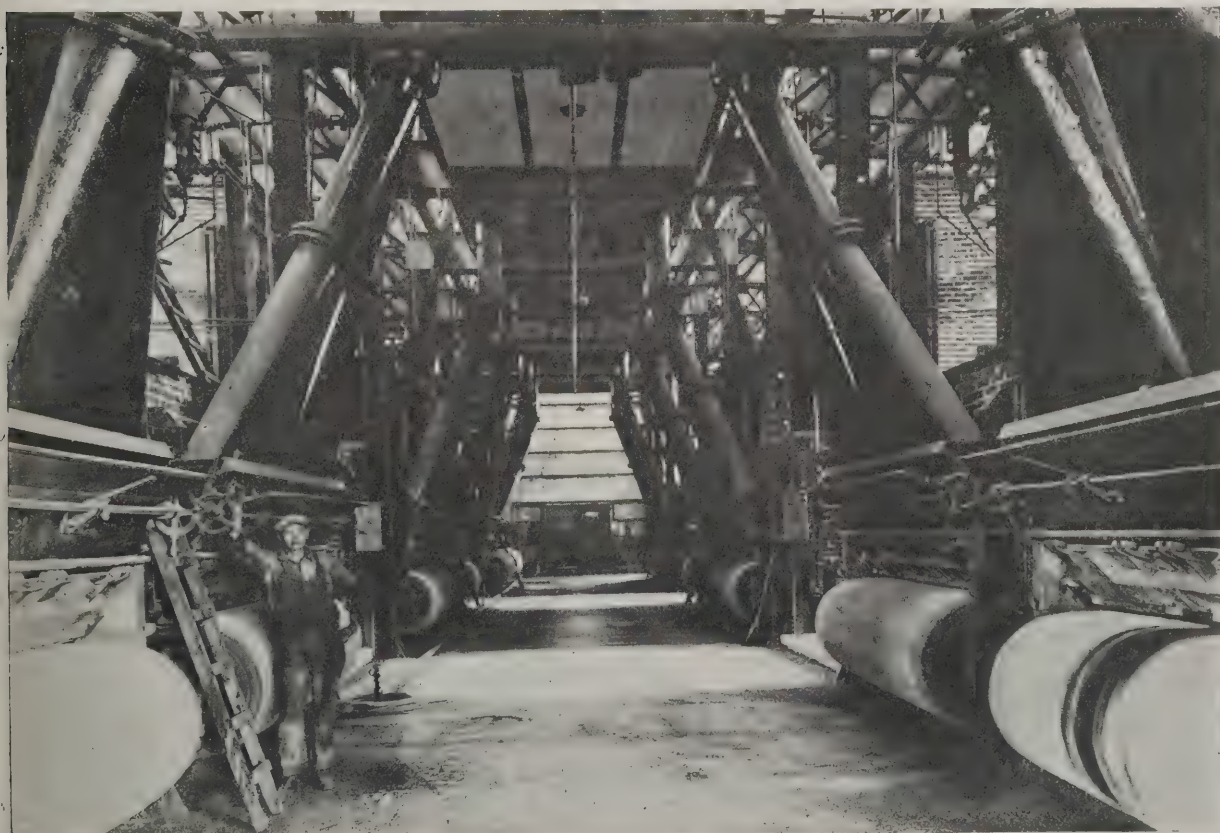
The coal for firing is at present conveyed in side-dump cars to the boot of a conveyor at the north end of the boiler-house. From this point it is elevated to a bin running the entire length of the building and situated halfway between the boilers, and at an elevation of 19 ft. above the grate level. Holes in the bottom of the conveyor trough permit the discharge of the coal into the bin at various points. When it is desired to stop the delivery of coal to any particular part of the bin, these holes are closed by means of slides.

Coal is fed to the grates from the bin, or bunker, situated overhead in the centre of the boiler-house. The rate of flow to the grates is regulated by a gate placed over the feed hopper at the front of the setting.

The coal is fed in at the front of the setting and is carried through the furnace by the moving grate, which discharges into the ash-pit at the rear end. The speed of the grate is so regulated that the combustion of the coal is completed. The flue-dust pit is connected to the ash-pit, the opening being covered by a sliding door which is operated by a lever alongside the boiler setting on the boiler-house floor.

The ashes are retained in the ash-pit by means of a vertical sliding door, operated by a lever on a lineshaft which runs the entire length of the setting. Ashes from the various ash-pits are discharged into two conveyor lines, one upon either side of the house, and extending the entire length of the building.

This plant is unique in that neither the human hand nor instruments held in it need touch the coal from the time it is loaded in the mine to the time when it is again unloaded or discharged in the mine as ashes.



POWER PLANT OF THE SUSQUEHANNA COAL COMPANY, NANTICOKE, PENNSYLVANIA.



## LONDON DOCK IMPROVEMENTS.

*West India and Millwall System.*

A considerable scheme, a section of which is in progress, has been undertaken at the West India and Millwall Docks. The important export docks, which were constructed considerably over a century ago, are in process of modernisation. A new quay extending over half a mile, with three two-storey sheds and modern equipment, has been provided at the West India Import Dock, and an improvement on somewhat similar lines has been carried out at the export dock, while new shed accommodation has been provided at the South Dock and the Millwall Dock. The plans, which have been authorised, and which are estimated to cost about £2,000,000, include a large turning basin at the east end of the import, export, and south docks, access to which will be gained by a new entrance lock 650 ft. long and 80 ft. wide, with a depth on the sill of 38½ ft. at high water of ordinary neap tides. A communication passage into the Millwall Docks will also be made. The existing entrances to the import and export docks, as completed in 1802, were of very small dimensions, though the eastern entrance was afterwards extended to a length of 48 ft. The new developments will provide accommodation for vessels up to 625 ft. in length, and the depth of water available in the docks will range from 28 ft. up to a maximum of 35 ft. As might have been anticipated, a large dry dock, which according to present plans will be 625 ft. long, will be constructed on an area adjacent to the new entrance lock. Additional facilities are also to be provided at some of the new deep-water berths of the South Dock for the rapid discharge of grain in bulk, and to aid quick dispatch to barge, rail, or road a small barge dock with good road and railway connections will be built between the South Dock and Millwall dock. New grain warehouse accommodation will also be available at these docks.

*Tilbury.*

At Tilbury work is in progress on the new river jetty which is being constructed to assist the quick discharge of ships landing part cargo only. It may be recalled that the dock area was extended from fifty-four to seventy-one acres, and an additional 650 yards of quay added by a scheme completed early last year. The jetty, which is now in a forward condition, is 1,000 ft. long and 50 ft. wide, with a depth of 30 ft. of water alongside, and is being built with two floors, the lower as a transit shed and the upper as a railway track. Railway access to or from the dock railway and the Midland system is given by means of a viaduct at the western end. Another work in progress here is the replacement at the dry docks of the old dewatering pumps by a modern installation consisting of two centrifugal pumps driven by gas-engine sets, either of which will be capable of emptying the largest of the graving docks in three hours. The intermediate caissons of the dry docks are being replaced by permanent concrete dams.

Up to the present time between £4,000,000 and £5,000,000 has been expended on completed works, and, but for restrictions arising out of the war, many of the schemes which are now in contemplation would either have been completed or have been under construction.

## CONCRETE SEA BARGES.

The first 1,000-ton reinforced concrete sea-going barge for the Director-General of Merchant Shipbuilding has been launched at Poole. The yard occupies a total area of nearly 250 acres, with a water frontage of one and a quarter miles in Poole Harbour. When work was begun last December by the present owners, Messrs. Hill, Richards, and Co. (Limited), of Albemarle Street, W., the site consisted mainly of farm land and marshy ground on the water side. To-day a large portion of the site is covered by long ranges of buildings, including commodious and well-appointed offices, engineering shops, carpenters' shops, mould lofts, and storehouses for large quantities of steel bars, cement, and other materials. An extensive timber yard, with sawmills, is near the waterside, for the landing and conversion of timber used in the preparation of moulds for concrete and for various incidental purposes. Sixteen solidly built slipways are nearing completion, designed for the construction of ships up to 2,500 tons deadweight carrying capacity. Contractors' lines run in every direction, and two miles of railway sidings have been laid, connecting the establishment with the system of the London and South-Western Railway Company.

The slipways were specially designed to suit the construction of concrete ships by Mr. E. O. Williams, the chief engineer to the company, and will ultimately be covered by roofing so as to enable work to be done in all weathers and to afford protection against extremes of heat and cold—an important consideration where reinforced concrete is concerned. The vessels at present on the stocks comprise eight 1,000-ton barges and three steam tugs of about 800 horse-power.

The unanimous opinion of the shipbuilding and reinforced concrete experts present was that the vessel just launched behaved in an entirely satisfactory manner, and that the greatest possible credit was due to all concerned in her design and construction. The Admiralty inspector stated that two more 1,000-ton barges would be launched from the same yard in the next month or so, and that an experimental barge of the same capacity which is being built on an adjacent slip to the designs of Captain J. H. Waller would be ready for launching in a few weeks.

## GOVERNMENT BUILDING CONTRACTS.

In a letter which appeared in "The Times" of September 4, Messrs. R. C. Gleed, of London; G. Kenwick, of Birmingham; John Leaning and Sons, London; Northcroft, Neighbour, and Nicholson, London; and Alan Paull, London, Fellows of the Surveyors' Institution, complain of "the entire abandonment by nearly all Government Departments of the system of tendering and lump-sum contracts which has been the universal practice hitherto."

The signatories state that their object is "to ensure a proper inquiry," which they "feel sure would lead to more centralisation of the technical work in connection with the erection of buildings, and thereby ensure greater care before work is commenced. The short extra time spent in preparing estimates avoids many dis-

crepancies, and enables the contractor place his orders advantageously and systematise his work, and in the long run is, therefore, fully justified."

## PROFESSOR LESLIE WILKINSON AT SYDNEY.

Cabling from Sydney on August 14, "The Times" correspondent recorded "Professor Wilkinson, formerly of London University, who has been recently appointed to the Chair of Architecture at Sydney University, was entertained at luncheon on that date by the Town-Planning Association. Professor Wilkinson declared that he would seek the rational development of Australian architecture in a manner suitable to the climate. Sydney at present had not the best architecture that it could have, and better taste was desirable in its commercial architecture."

Professor Leslie Wilkinson, A.R.I.B., to whom this message obviously refers, until recently assistant-professor at London University School of Architecture, and now Articled to Mr. James S. Gibson, he commenced practice in 1908 in London. Among his works are laboratories, gymnasiums, etc., at Guisborough Grammar School, Yorks; The Parsonage, Radwade; additions to "Rowberry" Donhead, near Salisbury; the chapel, surgery, etc., of the Welcome Institute, Millwall; flats at Ealing, etc.

A draughtsman of rare accomplishments, he won the R.I.B.A. medal for drawing and the Cates prize; and in the Royal Academy schools he gained premiums in design, silver medals for measured drawings and perspective, the English Travelling Studentship in 1904, and the gold medal and Foreign Travelling Studentship in 1905. Illustrations from his hand have appeared in the "Architectural Review" and in this journal; and he drew also Anderson's "Italian Renaissance" (second edition), for Professor F. M. Simpson's "History of Architectural Development" and for Mr. A. E. Richardson's "Mental Architecture."

*Memorial Cottages.*

As a memorial to the men of the district who have fallen in the war, it has been decided at Hampton-on-Thames to erect six cottages for disabled soldiers. A piece of land for this purpose has been presented by Mr. J. Aldous, a local landowner.

*Waterproofing a Cellar.*

All architects know that it is generally the little defects which ultimately cause annoyance to their clients. For instance, a flooded cellar causes endless discussion because everyone occupying the building remarks on the absence of warmth. In some cases continual flooding will cause rusting right through a boiler, making it useless after a few years. This was the case at the Beaumont Schools, Warrington, where the boilers connected with the heating apparatus were destroyed owing to the continual flooding of the stokehold for a period of eight years. The surveyor seriously contemplated filling in the chambers to above the flood height, two months before the great war broke out. He decided to try waterproofed cement in the concrete in the floor and wall rendering. A report recently received states that the Pudloed cement treatment has produced a perfectly dry cellar during the five years which have elapsed since the work was done.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

SEPTEMBER 25, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1238.

## NATIONAL PAPER ECONOMY.

*we would ask our readers to co-operate with us in making the efforts of the Government Paper Conference to eliminate waste. This they may do in one of two ways—*

*By placing a direct subscription for the Journal with the Publisher, or*

*By placing with a newsagent an order for its regular delivery.*

It was inevitable that "the facilities required to enable all forms of private enterprise to take an adequate part in making good the shortage of working-class dwellings after the war" should take the form of definite proposals, and those set forth in the report of the Housing Conference convened by the Architects' Institution to formulate a scheme were published in last week's Journal. On the whole, the proposals relating to finance seem reasonable and practicable. Obviously it would be as unwise as it is to exclude from the formidable task before us those who, having hitherto done the great bulk—ninety to ninety-five per cent.—of the nation's housing, may be supposed to have acquired exceptional knowledge and skill in the work—unwise for reasons, and unjust because a State subsidy in the past they were not allowed to participate would have bolted, and barred the door that has been already closed against them by a steadily adverse wind blowing from the money markets. In recommending that a grant from national funds should be made to all localities which erect houses according to approved plans during the transition period, it is suggested that the grant should represent the extra war cost of houses built at a time of exceptionally high prices, adjustments being made periodically to meet changing conditions. Alternatively to a definite financial grant, the Conference suggest that State assistance should make good any loss of income incurred in the provision by private enterprise of properly accredited or officially approved houses.

It is the crucial question of capital arises. It is conceivable that in a great many instances the private builder has depended on borrowed capital. He cannot hope to borrow again on the old terms, and the new rates of interest make it impossible for him to build houses that anybody would care to buy or rent at the figures which the present cost of borrowing would impose. What is he to do? Stand aside, superseded by others who, knowing less about the business, will inevitably do it more efficiently, and who are only undertaking it because the obligation is imposed on them by the State, which very obligingly, and very necessarily, has away the initial difficulties of finance? "It is obvious to the Conference," therefore, that, in view of the shortage of capital which must be anticipated after the war and the great demands which will be made upon it, adequate arrangements must be made to enable the various forms of private enterprise to obtain the capital necessary to carry out their undertakings." It is therefore suggested that special departments of existing banks, or a new National Building Bank, constituted by the Local Government

Board under Treasury authority, would be likely to prove more effective than the ordinary agencies, as being more directly in touch with the objects in view. It is further supposed that existing building societies should extend and adapt their operations to meet the new requirements. With these views we can hardly refuse to agree, since they are almost identical with those that have been from time to time put forward in this Journal. There can be but little doubt, we think, that they will find acceptance where they can be given effect.

Up to this point, the recommendations of the Conference are unexceptionable. Then they divagate somewhat, going into matters that might with more prudence have been left alone, since they overload a report that was already a little inflated, and, what is much more serious, they raise contentious issues. In suggesting, for instance, that a considerably larger number of houses per acre should be sanctioned than the authoritative limit of twelve, the Conference risks vehement opposition. It may be very proper to point out "that in certain cases land in process of development under schemes approved by local authorities has already been set out to allow of a greater number of houses per acre than that proposed," but to add "that any change in such circumstances would be impracticable" is to go too far—is, in a manner, to condone and extenuate what housing reformers must regard as a deplorable error. To mention that "instances will also occur where the need for accommodation is great and only small and isolated blocks of land are available," and to affirm that "in such cases, assuming that a sufficient provision of open spaces to meet the requirements of the district has been made, a considerably larger number of houses should be sanctioned, and still enable sanitary conditions to obtain," is to go from bad to worse—to present a purely sordid idea as if it were the law and the gospel. We want to get well away from such hide-bound notions, and from weak acceptance of things as they are, lest reform should hinder somebody's vested interests. Too tender a consideration for individual rights is a particularly nauseating form of the "sloppy sentimentalism" which is more often laid to the charge of sojourners in the opposition camp, and should not be indulged on either side, as so often it has been on both, to the public detriment.

Concerning the Chepstow housing scandal it will be wise to await fuller particulars before giving undue prominence to the palms of the hands and the whites of the eyes. When a member of the Chepstow Council likens the dwellings that are being erected for workers on the national shipyard scheme to "dog-kennels, pigsties, and mud huts," he would seem to be using the language of exaggeration. One feels instinctively that it cannot be as bad as all that. A similar tendency to hyperbole lends piquancy to the same councillor's further remark that, whereas the Local Government Board's rule was eight houses to the acre, "at Bulwark it was more like fifty." It would be pretty close packing. Are they building houses after the manner of the Chinese puzzle boxes, one within another? Nobody could detest more heartily than we do the dwellings that can be justly likened to dog-kennels, pigsties, and mud huts, packed fifty to the



acre; but it would not surprise us to hear, as a result of the Local Government Board inquiry for which there has been a somewhat heated demand, that affairs at Chepstow are not so black as they are painted.

\* \* \* \*

Want of space compelled the omission from last week's "Here and There" of a further reference to an article "On Improving the Dwellings of the Poor," by the Hon. Frederick Byng in "Meliora." Mr. Byng's aim is to show the need rather than the methods of improvement, and he quotes the Dean of Manchester's natural insistence on the moral aspects of housing: "Give them better homes, and you will create at least one ingredient towards improvement—self-respect." He gives this lurid account of a portion of London as he found it in 1847: "At the angle of Hopkins Street and New Street, Golden Square, are cowsheds, which range one above another, within a yard of the back of the houses. Forty cows are kept in them, two in each seven feet of space. There is no ventilation, save by the unceiled tiled roof, through which the ammoniacal vapours escape into the houses. At the opposite side of the houses, in the same street, thirty-two cows stand side by side. In this atmosphere, reeking with all these pestiferous effluvia, these creatures are kept close shut up, on each floor, night and day." No wonder that in the Golden Square district the proportion of deaths to population was 1 in 36, as compared with St. James's Square's showing of 1 in 90. Mr. Byng—writing, be it noted, in 1847—has this significant passage: "If funds are wanting to secure the artisan and the labourer healthy habitations, let them be forthcoming not as mere charity, but as a matter of justice, entailed on wealth for the privilege of exemption from poverty." Mr. Byng's argument goes deeper than perhaps he had deemed; and with very slight modification it would serve very well as moral support for the present-day national housing scheme.

\* \* \* \*

As a general election seems imminent, attention may be opportunely drawn again to the scarcity of buildings in which public meetings may be held. In most districts throughout the kingdom, the halls available are few and small, and fierce indeed is the competition for them. At the coming election it will probably be fiercer than ever, for the struggle will be short, sharp, and, let us hope, decisive, and it seems likely that everywhere more than the usual number of candidates will come forward. Some of them will be ladies, and, especially in the winter months, it would be scandalous if "these delicate creatures," as Othello called them, should be driven to conduct their campaign at street corners. Every district should have its public hall, available for all applicants in rotation, without distinction of sex or of political or religious creed. At elections, these buildings should be used as polling places, and there would then be no need to interrupt school work by turning out the children to make room for the ballot-boxes. It seems very possible that in the near future this need may be met by the extensive provision of drill-halls, which, wherever they exist, are very useful for public meetings and for similar purposes. Drill-halls, however, have been hitherto fearsome things to see. Their architectural improvement is as much a national obligation as their provision.

\* \* \* \*

By the death, on September 8, of Mr. William Henry James Boot, R.I., we have lost an artist whose over-intensive study of trees tended to narrow somewhat the scope of his work. He drew trees so convincingly to the popular eye that he was kept fully employed on them, and came to be regarded as a specialist in this department. He drew thousands of

leafy landscapes for a popular firm of publishers, whom his services were almost monopolised for about a quarter of a century. These pictures were in black and white; and incessant application to the same range of subjects and the same medium of depicting them had, in time, the inevitable effect. Often his drawing became dull and tame, probably as the result of overproduction and of working against time. Much Mr. Boot's work, however, while it cannot be said to reveal the poetic feeling of which the really great artist—perhaps one man in half a century—is able to make landscape the vehicle, conveys unmistakable hints of his genuine love of sylvan beauty. Almost it persuades us to become devotees of the ancient cult of tree-worship. He had, however, none of the austere dignity of the Druid; and, working perpetually for popular periodicals, he, consciously or not, adapted his art to the popular standard of taste, which, however, he contrived to raise a point or two although he never got beyond popular comprehension; and, himself, indeed, but little more than an admirer of pretty effects. He saw with the common eye, and his great dexterity with the pencil enabled him unfailingly to gratify the middle-class mind with the joy of recognition. He was a recorder rather than an interpreter, reminding us of what we have seen rather than of what we ought to look for, and for that reason, and for the corollary of wide acceptance, his work gave us the greatest pleasure to the greatest number.

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Much alarm for the safety of Adam houses in Adelphi Terrace was created last week by exaggerated statements in the Press. It was alleged that the Air Board, after commandeering certain houses in the terrace as sleeping quarters for officers in the Royal Air Force, thought that those houses would be unsuitable for offices, and, accordingly, turned out the officers bag and baggage. Then, says the humorous "once again the motherly Board seeks shelter for its airmen, and its eye lights on Adam Street; a block of artistic buildings, with a splendid view across the river . . . and such jolly old fireplaces and ceilings! . . . For nothing common or merely businesslike will do for the Air Board. Art in the Home is their motto, and they don't care whose house it is, so long as it be select. Mere hotels are beneath them, for their children cannot sleep unless there are beautiful ceilings above them, and carved marble places." This may pass as amusing banter; but in other newspapers there were allegations (which have been authoritatively contradicted) that in adapting Adam houses to the requirements of the Air Board scant respect would be paid to the Adam features. There was wild talk about the intention to knock down the walls of opposite houses and join them with a bridge! It is now understood that this rumour was based on misapprehension, or was a flight of fancy.

\* \* \* \*

Gratifying as far as they go, Air Board denials of any wicked intention with respect to the treatment of Adam houses do not condone their seizure. Officers may be generally credited with an appreciation of Adam work that would insure careful treatment. Nevertheless, exceptions are conceivable, and there is a strong chance that a house occupied as a set of superior barracks will meet with more or less serious casualties. We have heard bitter complaints of the treatment of houses in which soldiers are billeted. Of course, officers will not pull or kick to pieces the Adam houses; but they would themselves agree that it would be better if they were housed where damage through thoughtlessness would be of less consequence, where accident would not be irreparable. Is it not passing strange that this idea, elementary as it is, has not seem to have occurred to the Air Board?

## HERE AND THERE.

his sermon last Sunday evening, our vicar remarked casually that nobody knew how to write English history until John Richard Green showed it ought to be done. History, said our sagacious vicar, was too intensely political, and was too closely concerned with the good and evil deeds of the great to heed to the changes and chances of life in the millions. King and Queen, Knight and Bishop, Castle, were the only pieces that mattered to the historian, for whom the pawns had very little significance and no individuality. But, notwithstanding the anonymity of the pawns, ante-Green history was too personal. Why, asked our good parson, did it not tell us less about exalted personages, and more about the common people, whose lives are far more interesting: less about men and more about things; less about political squabbles and other rowdy doings, and more about life and the arts and crafts; less about fighting, more about work? After this homily comes on the following Monday morning from B. T. Batsford, Ltd., of High Holborn, London, "A History of Everyday Things in England," written and illustrated by Marjorie and C. H. B. Quennell. Price 8s. 6d. net.

Now, our good parson, in describing "history as it was written," had expressly mentioned architecture as one of the subjects that are habitually slurred or omitted by the conventional historian; and, seeing the name was on the title-page of this book, I felt confident that here, if anywhere, architecture would find its fair play. It does. Why not? Is it not an everyday Thing? If it is not, it ought to be. Builded up of all events, whether or not it rises to the dignity of architecture, is inseparable from human history—man more of a constant than clothing, and is more expressive of his mind and character. More than forty illustrations in the book show informally, and therefore the more engagingly, the waymarks of the history of architecture, the development of house and home in England. And these are live illustrations. Each of them speaks for itself, answering the questions inchoate in the youthful mind. That is the secret of the success, the fascination, of this book. It anticipates inquiry at the first step and satisfies it at the next.

These architectural illustrations had been faithful photographs of existing ruins, they might have thrilled the archaeological mind, but no properly constituted artist would have taken a second glance at them. And Mrs. Quennell knows better than to leave their cold and lifeless monuments of a dead past. To reconstruct them, restore their pristine vim, to endow them with living interest, furnish and decorate their interiors, and give them inhabitants who, thanks to Mrs. Quennell's rare and delightful skill in limning, seem to move and breathe as you gaze upon them. These tiny figures, let me say, are wonderful in their variety, their attitudes, their grouping, whether we see them promenading a Great Hall, pacing solemnly the aisle of a monastic church, applauding a performance in a thirteenth-century hall, or bustling about in the kitchen of the time of Edward III. And all these scenes, architectural or otherwise, rehabilitate the past for us as convincingly as a rare combination of scientific knowledge, delicate artistry, sympathetic imagination, can possibly do it.

Now we see, then, what sort of buildings our ancestors made adown the ages, how they adorned and how they used them. We are shown, by more than one

example, what a solar looked like, and how and by what sort of persons—or, rather (human nature being fairly static) how those persons were clad—it was at different periods put to use. Those few architectural pictures that have no figures in them atone for this omission by being for all the world like exquisite toy models such as a boy yearns to possess or to build—castles, windmills, watermills, ships. . . . And we are told how these things are put together! For the authors, being intimately acquainted with the innermost workings of the youthful mind (having, it is plain, invincibly youthful minds of their own), well know the insatiable curiosity of the human boy "to see how it works," and they tell him all about it in every instance. This is the right way of education; and aptly to the theme comes this passage in an article on Siurot, the Spanish educational reformer, in the current issue of the "Times Educational Supplement": "Given, then, that the child cannot generalise, but has a passion for material construction, we reach the logical conclusion that, as we cannot introduce into his mind what we wish him to learn by methods which the mature intelligence prefers, we must draw it, or paint it, or in some other fashion present it before his eyes in a material form that he can understand." That is precisely what Mr. and Mrs. Quennell have done.

Our authors do not make the fatal mistake of "writing down" to the young. Rather they speak as one youth to another, paying the listener the compliment of tossing him now and then a biggish word to chew upon. And occasionally principles are insinuated: "One should think of Westminster Abbey, not as a building put up by Henry III., who, though he was a bad king, was a good builder, but rather as being symbolical of the ideals of a whole people moving slowly towards freedom and justice—with many set-backs, but yet moving forward." In our youth histories for schools used to dose us with physic like this: "On the 30th of October Henry was crowned at Westminster by Cardinal Bourchier, Archbishop of Canterbury. The Parliament, soon after, seemed entirely devoted to him. It was enacted 'That the inheritance of the crown should rest, remain, and abide in the king'; but whether as rightful heirs or only as present possessor was not determined." This thrillingly romantic passage is chosen at random from a once popular school-book. Dig anywhere in this desert and you will turn up the same sort of sand. But the old book was rather generously illustrated—mainly with coins, seals, and effigies from the tombs. Those stonily staring portraits were a boon to the schoolboy. They provoked the artist in him. He must needs set on the head of Henry II. ("From his Monument at Fontevraud") a chimney-pot hat at a rakish angle, clothe his bare face with most preposterous whiskers, and put in his majesty's mouth a disreputable pipe. Much worried by the tombstone-effigy eye-sockets, the young artist would insert pupils in them, and that with so much low cunning as to present every known variety of squint. John ("From his Tomb in Worcester Cathedral") squints frightfully. These outrages the schoolboy perpetrated not because of his fallen nature, but to invest the cold stone of history with some kind of human interest. I permit myself to say that he has my sympathy.

He will not need any sympathy if he have the good luck to learn the rudiments of history from "Everyday Things"; nor will he dream of tampering with the always interesting and mostly very beautiful illustrations in which it abounds. Reality, the key-



note of the book, pervades the illustrations. These naturally comprise many figure subjects. In a series of coloured plates are shown with minute particularity of detail the costumes of all sorts and conditions of men, women, and children, at different periods. These not only gratify curiosity; they will be very useful for dressing the characters in the historical scenes that are now commonly enacted in schools, with this selfsame object of making the dry bones of history live. These plates are all delicately done, and the eye lingers upon them delightedly; but for irresistible charm we have seen nothing to excel the less formal groups of children—romping at “hoodman blind” or “hot cockles,” or watching with rapt attention a puppet-show. They are all real children, not impossibly pretty, but human and lovable, and thereby beautiful exceedingly—as dainty as Arthur Rackham’s sprites and fays, but less anæmic. This charming book is completely in accord with the forward movement in education, and should do much to promote it.

DIOGENES.

## THE PLATES.

### *Two Modern Cabinets*

THE cabinets illustrated in this number were designed by Mr. W. F. Crittall for the display and storage of a fine collection of punch ladles. These, when not being exhibited in the case, are kept in the drawers under, and a baize-covered slide is provided just under the glass doors to put the ladles on to if it is desired to examine or handle them. The other cabinet serves the more usual purpose of housing china, glass, and other pretty odds and ends. Both pieces have been made in mahogany with some simple banding, and the only ornament employed is a little plain piercing reminiscent of Japan. There is an absence of any moulding, and little more has been done than to rub off the sharp angles. The wood has been allowed to take on its own colour and has only been wax polished. We think our illustrations are of interest as showing what satisfactory results can be obtained by the simplest means if the general proportions are good.

### *A Village Colony for Disabled Soldiers.*

This design is the Diploma work of Mr. Gordon Hemm, of Liverpool University. It shows a small village colony for disabled soldiers, to accommodate 1,000 men, their wives and families—about 3,400 persons in all. The village is presumed to be on a new site devoid of natural features needing preservation, except a stream parallel with the railway, suitable for providing power. The conditions laid it down that one railway should crown the site, and a station could be located where required. There were to be several small factories and a warehouse in connection with the station. 250 of the men would be unmarried and require housing in hostels. A church, a club-house with communal dining room, and any other communal buildings thought necessary, were to be provided.

### *Portion of Late Eighteenth Century Ceiling.*

No. 15, Hanover Square, a house of the late eighteenth century period (formerly the premises of the Royal Orthopædic Hospital, and now demolished), was remarkable for an elaborately decorated and coloured plaster ceiling. The original painted panels, together with reproductions of the moulded plasterwork, are in the Victoria and Albert Museum.

### *Monument to Victor Emmanuel II., Rome.*

Giuseppe Sacconi’s great National Monument at Rome is justly regarded as the finest war memorial of modern times. Its mass symbolises something

more than combat, for it links the past to the present, it tells of the triumphs of Roman civilisation, it reflects the glories of the Renaissance at its zenith and in the vigour and correct multiplicity of interests it announces the rejuvenation of Italy. Long before the present war it was obvious to all careful observers that Italy was steadily seeking her destined place as a great Power.

## CORRESPONDENCE.

*The King’s Fund for Disabled Officers and Men*  
To the Editors of THE ARCHITECTS’ AND BUILDERS’ JOURNAL.

SIRS,—The enclosed letter (reproduced below) has been, or will shortly be, sent to all members of the National Federation of Building Trades Employers, and I shall be much obliged if you will call attention to it in your next issue, and add that I have appealed to architects or surveyors, in order not to clash with any similar appeal that may be made to those professions, but I should be only too happy to include donations from gentlemen in those professions who feel sufficiently interested in the scheme.

I should be glad also if you will call attention to the fact that the Ministry of Pensions may have already made appeals to the various secretaries of building trade associations apart from my appeal, through a misapprehension in the propaganda department of the Ministry. My arrangements for my appeal having been made in full accordance with the knowledge and approval of the Minister.

ERNEST J. BROWN.

Care of National Federation of Building Trades Employers of Great Britain and Ireland, 48, Bedford Square, London, W.C.1, September, 1918.

### [COPY OF ENCLOSURE.]

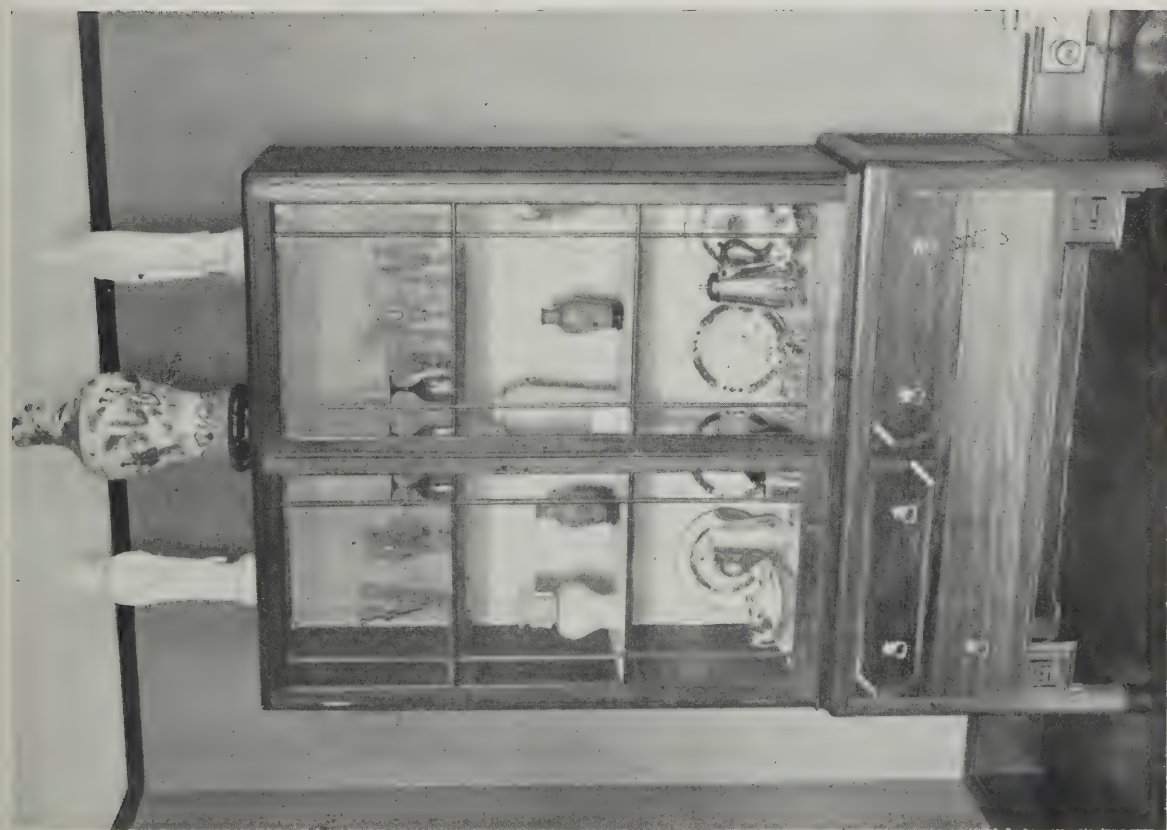
SIRS,—You will doubtless have read in the Press the scheme the Minister of Pensions has recently launched, and of the appeal he has made on behalf of our disabled officers and men of the Navy, Army, and Air Force, and how thoroughly he has thrown himself into the whole matter. In his scheme it is noticed how prominent the building trade is, as being a suitable form of employment in one way or another for large numbers of our wounded and partially disabled heroes, and, in supporting the Minister in that point of view, his scheme which offers instruction to suitable men to learn a trade by which they may earn a livelihood, I am appealing to the employers in our great industry to make a donation towards the Minister’s scheme, *to be ear-marked for men who take up any profession in the building trade as the means of providing for themselves and their dependents.*

I have consulted with the Minister, who cordially approves my action, and I feel that, by making a successful appeal to members of the building industry throughout the country, I shall be more than repaid for the time I have voluntarily devoted during the last year to the interests of the great Federation of which I have the honour of being a past-president.

The King and Queen have made a handsome donation of £53,000, being the City of London’s wedding present, to which His Majesty has added a personal donation of £25,000; this not only shows the King’s sympathetic interest, but he has graciously consented to the fund being known as “The King’s Fund for Disabled Officers and Men of the Navy, Army, and Air Force.”

I shall feel grateful if you will, either personally or through your firm, subscribe as liberally as the circumstances allow, and help me to send a sum to the Minister of Pensions such a sum as will place the building trades employers in the forefront of the list of subscribers.

With compliments, I am, yours faithfully,  
ERNEST J. BROWN.

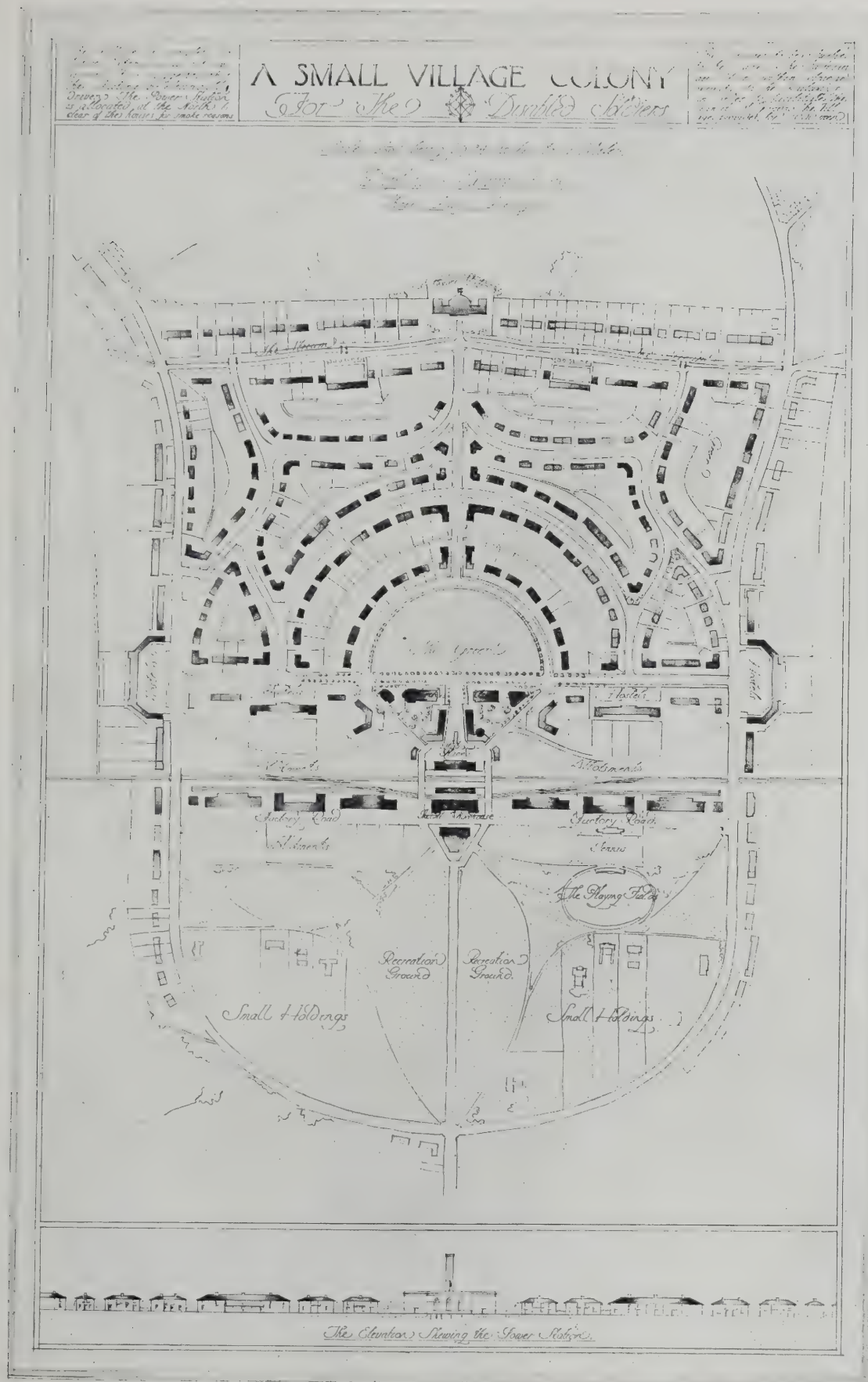


FURNITURE. VIII.—TWO MODERN CABINETS. DESIGNED BY W. F. CRITTALL.



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STUDENTS' DRAWINGS (SERIES III.). XIV.—DESIGN FOR A SMALL VILLAGE COLONY FOR DISABLED SOLDIERS.  
BY GORDON HEMM.



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DETAILS OF CRAFTSMANSHIP (SERIES III.). XXXIX.—PORTION OF A PLASTER CEILING FROM NO. 15, HANOVER SQUARE, LONDON, FORMERLY THE PREMISES OF THE ROYAL ORTHOPÆDIC HOSPITAL (NOW DEMOLISHED).

(Reproduced by courtesy of the Director of the Victoria and Albert Museum.)



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MONUMENTS. XL.—NATIONAL  
COUNT GIUS



VICTOR EMMANUEL II., ROME.  
ARCHITECT.



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# PROPOSED NATIONAL WAR MEMORIAL AT WESTMINSTER ABBEY.\*

BY WILLIAM WOODWARD, F.R.I.B.A.

THE Journal of the Institute has recently referred to suggestions to provide a fitting and worthy memorial to the brave heroes, men and women, who have given up their lives for their country's safety and honour. Some of these suggestions, good as they are, are impracticable by reason of great interference with existing property, and of enormous cost in construction. The scheme which is outlined on the two pages submitted herewith is thoroughly practical, and involves only the clearance of the site of the houses between the Chapter House and Great College Street,

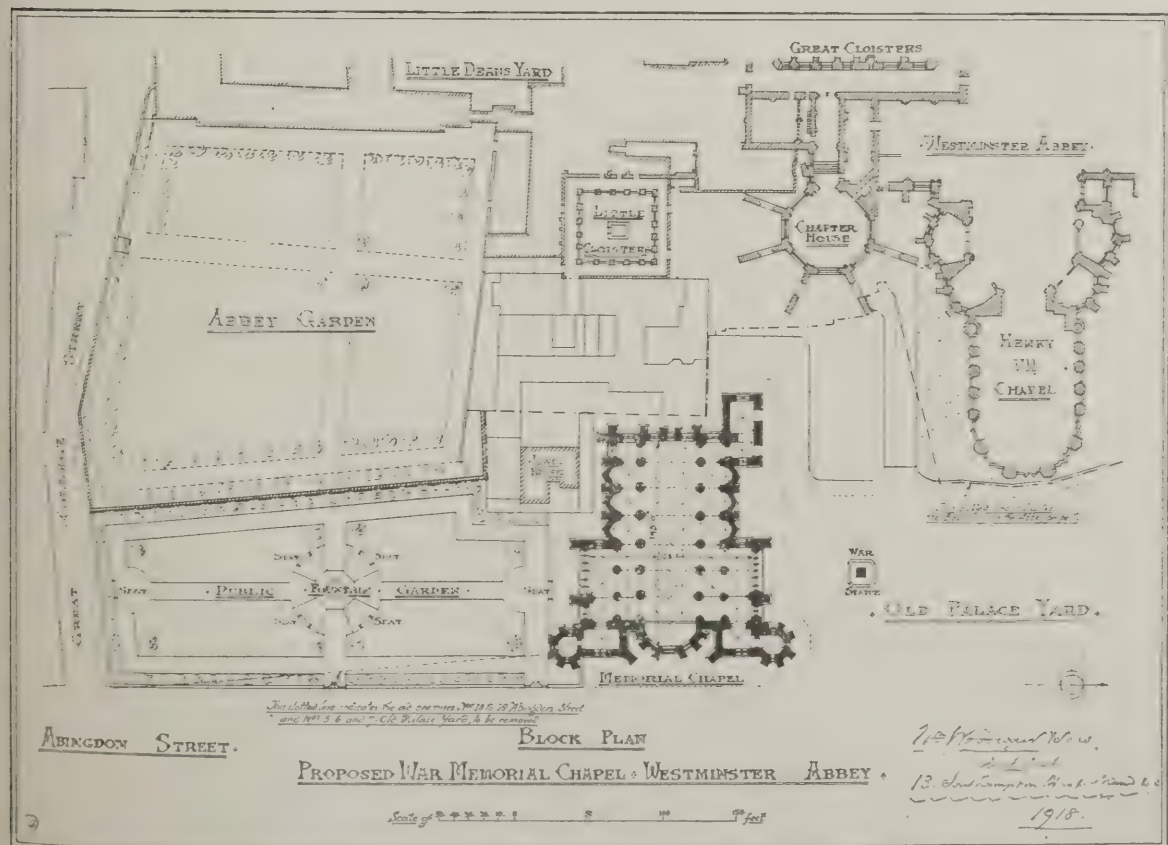
and there is no interference with any structure of architectural or archæological interest. I have, during the last two years, devoted myself to making a complete set of drawings of the proposed chapel.

The houses in Abingdon Street and Old Palace Yard, the freeholders of which are, for the greater part, the Ecclesiastical Commissioners, approach the termination of their leases. In April, 1917, I wrote to the secretary of the Ecclesiastical Commissioners informing him that I had heard that the Commissioners were proposing to let the site, and I referred to my scheme to utilise the site for a Public Improvement and a National War Memorial Chapel. He replied

reprinted from the August issue of the R.I.B.A. Journal by kind permission of the Editor and of Mr. William Woodward.



VIEW OF PROPOSED WAR MEMORIAL CHAPEL WESTMINSTER ABBEY





that the Commissioners had not under consideration any scheme for the rebuilding of their property, but that it would be a question, mainly, of opportunity when the site should be re-developed. Whatever may be done with regard to my scheme, I sincerely trust that the Ecclesiastical Commissioners will be sufficiently patriotic, and will have due regard to the splendid improvements at this particular spot in Westminster, to dismiss any idea of the erection of some huge block of offices or other commercial building which will neutralise all the benefits which have accrued from clearing away the houses in front of the Chapter House, and the opening up of one of the fine features of that beautiful thirteenth-century building—viz., the Flying Buttresses.

#### *The Proposed Chapel*

It is well known that there is not any more room for memorials in the Abbey itself, and it has been agreed by the authorities that there should be no interference with the present monuments. It has long been felt that some provision should be made for the continuance of these memorials, and the opportunity is taken to suggest that this national want should be met, and that it should take the form of a Memorial Chapel and Valhalla, a "Palace of Immortality inhabited by the Souls of Heroes slain in Battle." In 1890 and 1891 a "Royal Commission on the present want of space for monuments in Westminster Abbey" sat, decided that a Memorial Chapel for future monuments should be provided, and that it should be erected as an adjunct to the Abbey. The then Archbishop of Canterbury said that it should be a building in the sense "that it should be possible to be used for services like the rest of the Abbey as any of the chapels might be."

In designing this Memorial Chapel care has been taken not to intrude, in any way, upon the structures of architectural or archæological interest connected with the Abbey, and the suggested site is entirely outside the boundaries of the Abbey property. The Memorial Chapel would be reached either directly from Abingdon Street, or through the doorway from the Abbey itself in Poets' Corner, and across the lawn in front of the Chapter House. The Chapel would

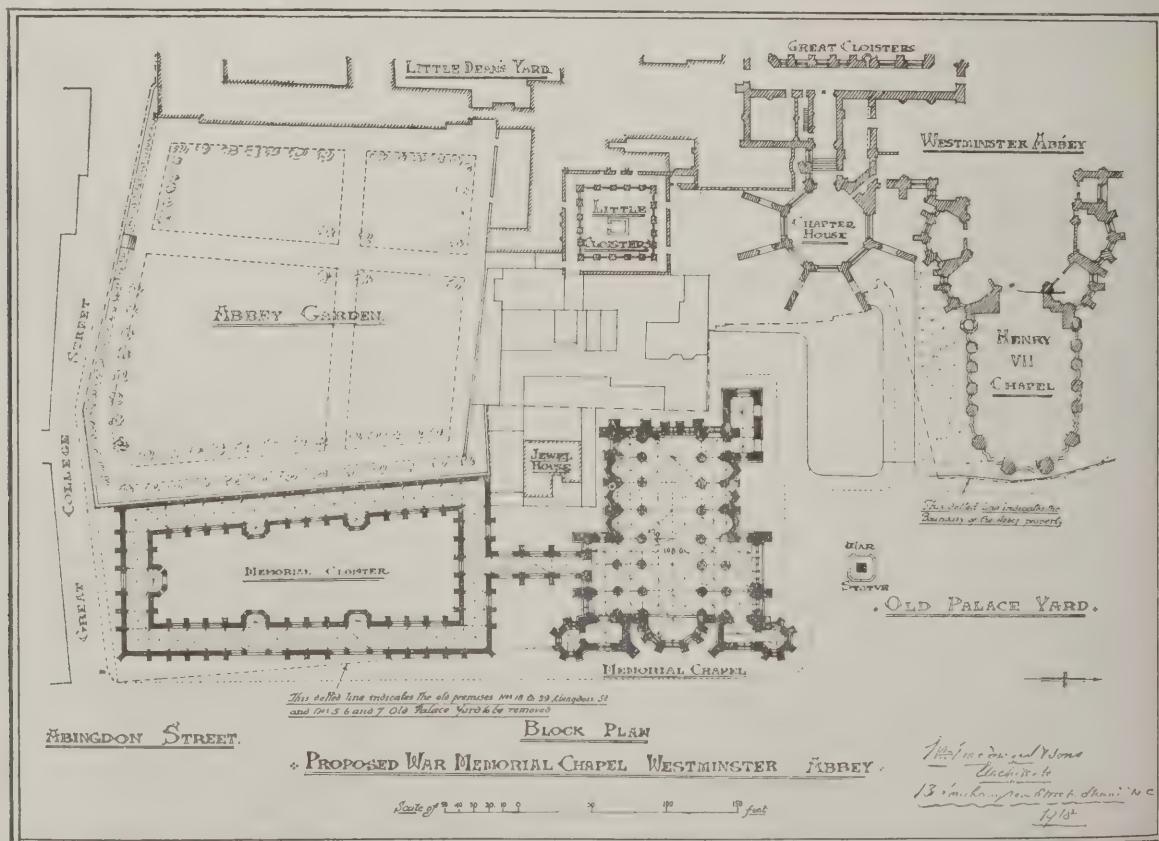
provide for memorials to all the heroes who have fallen in the War—on Sea; on Land; in the Air; omitting the glorious deeds of the women. Of all the above-named, imperishable records should be provided in the form of sculpture, stained glass, mosaic, bronze work, and woodwork; and, in addition, the Chapel should provide for solemn Memorial Services and for quiet prayer and meditation, by the relatives of the fallen. The Chapel would be visited by many thousands of persons who will pass through the Abbey, as they do now, contemplating those monuments for the continuity of which there is no room in the Abbey itself.

To give some idea of the proposed Chapel it may be stated that the height to the roof is about the same as Henry VII. Chapel; and that its general dimensions may be compared with those of Gloucester Cathedral. Thus the length of the Chapel is 145 ft., Gloucester 174 ft.; the width of the nave of the Chapel 37 ft., Gloucester 34 ft.; the width of each aisle of the Chapel is 18 ft., Gloucester 15 ft.; the total width of the nave and the aisles of the Chapel being 73 ft., Gloucester 64 ft.; the height of the nave of the Chapel would be 70 ft., Gloucester 68 ft.

The complete design of the Chapel is shown by the accompanying drawings, and I need only say that the style of architecture is in harmony with the surroundings, with the Houses of Parliament, and with Henry VII. Chapel, the thirteenth-century Chapter House forming a fitting centre to the new style of Henry VII. Chapel and the Chapel which we have designed.

#### *The Public Improvement.*

During the last few years considerable sums of money have been expended in the great improvements which have been made at Millbank in the vicinity of the Victoria Tower, the public gardens between Abingdon Street and the river forming a valuable feature of these improvements. The erection of the proposed Chapel would involve, as I have said, the demolition of the houses Nos. 1 to 29 Abingdon Street and 5, 6, and 7, Old Palace Yard, all houses of little



no architectural interest, but which, at the present moment constitute an ugly blot at this part of the millbank.

The demolition of these old buildings would open a view of the trees in the fine old Abbey Garden at the rear of these houses in Abingdon Street, bringing to view the ancient Abbey wall now hidden away. An additional point of interest would be shown by the opening up of the ancient Jewel House. It is suggested that to the south of the Chapel up to Great College Street, where these old houses terminate, a Public Garden should be formed, and this garden

would have a length of about 300 ft. and a width of about 130 ft.

Since the above described design was completed a suggestion was made in "The Times" of July 16, 1918, that the site I have indicated for a Public Garden should be covered by a Cloister, or Campo Santo. I think the idea is an admirable one, and I have therefore prepared the alternative plan, which I herewith submit, showing the suggested Campo Santo in lieu of the Public Garden, the other features of my design remaining as before.

## MATERIALS AND CONSTRUCTION IN HOUSING SCHEMES.\*

BY W. E. H. BURTON, Assoc.M.Inst.C.E., Engineer to the West Riding Asylums Board.

FOR the construction of the many dwellings required to be built to house the working classes it is essential that no materials should be selected at what are of proved reliability, and these utilised only in sound construction. The element of cost states that no effort should be spared to secure any economy possible either in materials or labour. The buildings may have to be plain, but they must nevertheless be substantial, and good proportions relied on rather than embellishment to give refinement. The average tenant has little respect for his landlord's property, and with the local authority acting in that capacity he will in all probability have still less, and much wear and tear should therefore be provided for. Flimsy planning involving the adoption of flimsy construction is to be avoided, and care taken that joinery details, particularly kitchen and scullery fittings, have some solidity about them. There is little likelihood that we shall see startling innovations either in materials or construction for grappling with the vast amount of building work awaiting the end of the war, and it will be necessary to put to their best possible use those with which we are now familiar.

### *Timber.*

Material obtainable locally should always receive preference, for not only is the cost of transit reduced, but each can be more deftly handled in the locality in which it is to be found. The depletion of shipping will restrict supplies of timber for a long time to come, and the use of Portland cement will need extending in every possible direction to fill the gap. It is improbable that the use of timber can be much curtailed so far as the construction of windows, doors, and internal fittings are concerned, but undoubtedly great savings can be effected by using more sparingly in floors and roofs, and by reducing in size or eliminating altogether sittings and architraves.

When shipping facilities are restored, more attention should be directed than formerly to the excellent timber grown in North America. In the past our chief supplies have been drawn from the Baltic ports, and by-laws in regard to the sizes of timber for floors and roofs have been framed to meet the quality of timber and scantlings commonly shipped thence. With the exception of pitch pine, very little timber has entered this country from North America, though large quantities have been shipped to Europe. This is largely due to a too exacting adherence to the dimensions prescribed by by-laws. American timber being cut to sizes in the green, on becoming dry gives shrinkings less than the market sizes imported from the Baltic. It should be borne in mind, however, that the general species of American timber (Southern yellow pine and Douglas fir) are from 50 per cent. to 25 per cent. stronger than Baltic red wood, and due provision should be made to allow their use.

### *Brick.*

Brick is pretty certain to retain the position it has held for centuries as the chief material used in general building construction. Suitable clays for brick making are to be found in almost every portion of the country, and the cost of production is but small. In the hands of a skilful designer, no material lends itself to such infinite variation, particularly so when coupled with a discreet use of purpose-made and moulded bricks. Their size might with advantage be standardised, as considerable variations obtained in different parts of the country. A return to a brick slightly less rather than over 3 in. in depth, for example the standard suggested by the Royal Institute of British Architects, 9 in. by 4 $\frac{3}{4}$  in. by 2 11-16 in., would considerably add to the appearance of brickwork, especially when in large masses, though the labour expended in walling might be somewhat increased. There is frequently a tendency to match bricks for colour too carefully, whereas the charm of brickwork lies in the diversity of hue it is capable of rendering. For depressing monotony there is nothing to compare with a wall built in first quality pressed bricks, each brick perfect in shape and matched to colour. While bricks must be selected for hardness and durability, every advantage should be taken of variation in colour and texture.

If it is desired to use a brick of poor weathering quality in the external walling, a good thick coating of cement (not lime) roughcast would enable this to be done and at the same time introduce variety of treatment.

### *Stone.*

Stone does not lend itself to cheap building except in districts where it abounds and there happens to be an absence of clay suitable for brickmaking. Thicker walls and considerably more labour are required in its use, and variety is difficult of achievement, except at greatly increased cost. The elevation of the typical working-class dwelling erected in stone has little to commend it, and once begrimed with soot the meanest brick erection cannot vie with it for ugliness. Stone is an excellent material for giving relief to brickwork by way of dressings, but anything in the nature of buildings with mean brick backs and glaring stone fronts should be avoided. Brick chimney stacks can have their weather-resisting properties added to with advantage if finished with a stone cap formed in one stone where possible, and pierced for the flues. When flue linings are adopted, chimney pots may be dispensed with, if the linings are allowed to project a few inches above the cap.

Something must be said for the sparing introduction of terra-cotta, particularly the light-coloured productions, such as "Marmo," in districts where by reason of their industries a smoky atmosphere cannot be avoided. This material lends itself admirably for such situations, owing to its adaptability for periodic cleansing and rejuvenating. For a dampcourse

\* Paper read at a North-Eastern District Meeting of the Institution of Municipal and County Engineers.



reasonable in cost and easy to lay there is nothing to equal a good grade bitumen sheeting, as it possesses sufficient elasticity to allow a certain amount of settlement in a building without impairing its efficiency. This material should never be omitted under the copings of parapets or other walls projecting above the roof.

The smoke question will be more seriously dealt with before long, not only in the interest of the public health, but in the steps taken to conserve the country's most valuable asset, coal. In all the houses about to be built, in order to further that end, the advisability of using gas for both cooking and warming cannot be too strongly emphasised, and every facility should be afforded for this by making proper provision when houses are in course of erection.

The universal use of electricity for lighting power, warming and cooking is not likely to become an accomplished fact just yet. This is, however, only a matter of time, and with its advent will disappear the bulky and costly chimney stack, and other means of securing ventilation will then have to be devised. By constructing fireplaces or internal walls better draught is obtained and a considerable amount of heat conserved.

#### *Portland Cement.*

The material of the future will undoubtedly be Portland cement, and it is to be desired that it will be placed upon the market at considerably lower figures than have prevailed in the past, especially seeing that the raw materials for its manufacture are to be obtained in vast quantities at little cost. The adoption of a standard specification has secured a thoroughly reliable article, and it should gradually supersede lime, not only in concrete, but in mortar and stucco, and all other purposes for which lime is used. Lime is frequently mixed with too great a proportion of sand and ashes to admit of a satisfactory mortar resulting. It has been shown by analyses that the chief factor in the general excellence of the mortar used by the early builder was that they fixed the ratio of lime to sand at about 1 to 2, and selected a coarser aggregate than is customarily used to-day. If a ratio of more than 1 to 3 is adopted, Portland cement, with the addition of about 3 per cent. hydrated lime, should be substituted for lime alone, and its use is always advisable for cavity walling and half-brick internal walls. In the manufacture of artificial stone, it has brought about a high state of perfection, and further developments in this industry will follow.

It is unlikely that reinforced concrete will be used to any great extent in the construction of dwelling houses, as its application would necessarily be on too limited a scale to produce economical results on the outlay. It might, however, be more frequently used for roofing bays and projecting spurs in substitution for timber and lead. Bay windows require to be of much more solid construction than has hitherto prevailed in many towns, and anything in the nature of the foreign ready-made stuck-on type should be avoided. In the form of blocks concrete makes a cheap and useful material where a suitable aggregate can be found and there is an absence of brick or building stone. The cavity wall system of construction is to be preferred to the hollow block, particularly in exposed situations. Used on a large scale, however, it would be difficult to avoid monotony owing to the necessity of having the sizes of all openings standardised. The dimensions of the blocks customarily used are somewhat large and rather out of proportion to the scale of the buildings. Having regard to the scarcity of timber, flat roofs of reinforced concrete might be introduced with advantage in certain situations, and would lend fresh scope for architectural treatment. This type of roof can be made perfectly watertight by finishing with a  $\frac{3}{4}$ -in. floating of cement mortar (1 to 2), to which 5 per cent. of Pudlo has been

added. There is rarely any occasion to incur expense that a covering of rock asphalt entails. Where there is a likelihood of any settlement, it is advisable to cover with Ruberoid or other similar sheeting.

Light forms of concrete and timber construction such as have been adopted in the United States are not likely to find favour in this country, except in buildings of a purely temporary character. A recent form known as the "concrete stud and cement stucco construction" consists of a skeleton frame of timber studs with  $1\frac{1}{2}$  in. to 2 in. thick of concrete coating the outside upon metal lathing, while the inside is lathed and plastered. A wood frame, consisting of studs, joists and rafters, is erected in the usual manner of building the skeleton of a frame house. Every fourth stud is doubled, allowing a 3-in. by 4-in. space which is filled with concrete to form a concrete stud. At the second floor and roof levels a ledger board with bottom attached, is placed over the studs, and so arranged that when filled with concrete they form beams which, with the vertical concrete studs, make a homogeneous concrete frame. The floors consist of timber joists and floor boards. The roofs are boarded and covered with asbestos sheeting or other light form of covering.

Considerable advancement has been made in the United States with the poured concrete method of house construction. The houses constructed in this manner, however, are unfortunately devoid of any architectural pretensions, and are in short little better than concrete boxes. The walls are of solid concrete some 6 in. thick, reinforced horizontally and vertically, while the floors are of the usual reinforced slab and beam construction. The roofs are of timber and covered with asbestos sheets.

#### *Roofing Materials.*

For a roofing material, coarse Westmorland slates have no equal either for life or appearance, but their cost makes them practically prohibitive. Welsh slates on the other hand, are comparatively cheap, but their colour is not pleasing, and their use in any quantity has a depressing effect upon a landscape.

Given sufficient pitch (40 deg. to 45 deg.) and less than 3-in. lap, tiles are quite satisfactory, and can be used with effect, but, as in the case of bricks, uniformity of colour is to be avoided. The machine-fashioned hand-made pantiles are usually too poor and should not be used except on steep pitches. Where pantiles are adopted in exposed situations, the roof should be covered before the tile laths are fixed with waterproof felting. On tile roofs there should be no flattening of the pitch at the eaves, or speedy rot will ensue owing to tiles scaling off. Overhanging eaves should be adopted wherever possible, as they very considerably assist in protecting the walls from the weather. They must not, however, be allowed to project to such an extent as to affect the lighting of the rooms.

Many varieties of artificial slates made from cement and asbestos are now on the market and have proved satisfactory. Unfortunately, they give a flat and geometrical appearance, and used on a large scale the effect would not be pleasing.

Grey or stone slates make an extremely durable covering, but their weight necessitates stronger timbers, and they are consequently unlikely to be favoured except in those localities in which they are to be found.

#### *Inside Treatment.*

So far as the inside treatment of buildings is concerned, there is scope for a much more extensive use of wall board and similar products than has hitherto prevailed. Ceilings might with advantage be constructed of this material, and thus obviate the cracked and unsightly appearance frequently resulting from the use of plaster. Where plaster is used on ceilings, it should be upon a foundation of expanded

cal in preference to wood laths. Stud partitions are of the past now that so many excellent and at forms of slab partitions are available. Though at first cost is somewhat more, it will probably be and more satisfactory in the long run to render walls in Portland cement and finish with Parian cement or other gauged plaster in place of the usual three coats of plaster.

Wood staff beads are thereby dispensed with, and will also be found good practice to bullnose slightly external angles. Two-coat plaster work is rarely if ever satisfactory. There should be no plaster cornices, picture moulds should be provided in every room to obviate as far as possible the driving of nails into walls. The walls of sculleries and larders are never left unplastered. The bricks should be carefully selected for shape, and the joints neatly struck.

#### *Inside Plumbers' Work.*

The inside plumber's work merits more attention than it commonly receives when plans are in the initial stage of preparation. The run of every pipe should be carefully thought out and indicated upon the drawings, and not left to be devised as an afterthought when the structure is completed. All pipes should be made easily accessible by being run as far as possible on the face of the walls. In every scullery there should be provided a white glazed sink not less than 6 in. deep, with draining board at which a plentiful supply of hot water should be available. A gas set pot should invariably be fitted in preference to the obsolete black contrivance which took up too much valuable space.

#### *Joinery.*

As regards the joiner's work, thin stuff must never be countenanced. Doors and windows should not be less than  $1\frac{3}{4}$  in., and 2 in. is desirable. If casement windows are adopted, construct them with a sash over, so as to admit of ventilation in weather. In an open casement would be out of the question. Drawings can be omitted when the walls are finished with a hard plaster. A 2-in. by 2-in. convex fillet is all that is necessary. Where architraves or cover moulds are required, let the mouldings be simple and do without an absence of smaller members. Shelves of cupboards should be constructed wherever it is possible to fit them, and a dresser and plate-rack not forgotten in the kitchen.

#### *Standardisation.*

One word in regard to standardisation, of which much is heard to-day. Highly desirable as this may be in the case of bricks, tiles, ranges, registers, baths and fittings generally, and possibly internal doors, anything that would tend to standardise window and external door openings and restrict the free treatment of elevations must not be countenanced.

It is imperative that savings must be effected wherever possible, both in materials and labour, and the fullest advantage taken of what standardisation has to offer, but never let it be forgotten that the architect has a soul and requires something more than a mere walls and a roof for a dwelling, be the materials and construction ever so perfect. Standardise the component parts and construction of a building by all means, but give the craftsman a chance to show his skill in putting them together. Excessive standardisation would prove too great a temptation for slavish copying, and however pleasing the unit design might be to have it mechanically repeated hundreds if not thousands of times up and down the country like the stamping of trees upon an Ordnance sheet would be to reduce a creation of beauty to so many eyesores.

#### *Constructional Details.*

The following details of construction will, if adopted, be found to give satisfactory results:—  
Foundations.—Portland cement concrete should be

used in all foundations, and brick footings dispensed with. In mining districts where subsidence is likely, disused wire ropes, obtained practically for the asking from any colliery, make excellent reinforcement for the foundation concrete. Wall junctions and returns should be treated as in reinforced concrete.

External Walls.—To be 10 in. thick, built of brick in stretcher bond with 1 in. cavity. Two stout galvanised wire ties in every superficial yard of wall placed checkwise. The cavity to extend 6 in. below the dampcourse. Bitumen sheet damp-coursing to be laid over all window and door heads, the full width of external wall and cavity, and turned up 3 in. at internal wall. Where the heads extend the full thickness of the wall, the upper surface in the cavity requires to be grooved to falls, and the back cement rendered. Efficient supervision is necessary to see that this construction is faithfully executed. For one and two storey dwelling houses it has been found to answer satisfactorily in the most exposed situations. Brick walls built solid unless more than 14 in. in thickness are less effective in resisting driving rain, particularly when the joints are well flushed up.

Lintels, etc.—Reinforced concrete lintels should be used over door and window openings in place of wood, and obviate the necessity for relieving arches. Concrete lintels should also be used for fireplace openings, and trimmer arches replaced by concrete hearths. Coke breeze fixing bricks should take the place of wood bricks and strips for attaching joinery fittings.

Floors.—Joisted floors at ground level should be dispensed with. Lay 4-in. cement concrete (1-2-4) and float 1-in. thick with cement mortar (1-2) to which 5 per cent. Pudlo has been added. Where wood finish is desired, cover with 2-in. breeze concrete (1-4) to which floor boards can be nailed. Kitchen, sculleries, and larders to be finished with cement and granite chippings (1-2) finished equal to a polished flag, or if desired, lay tile quarries or natural flags. With such construction, freedom from vermin is practically assured whilst liability to dry rot is reduced to a minimum.

In regard to the first floor, reinforced concrete has not yet become a practical proposition for the construction of floors, so far as the average dwelling house is concerned. It might be feasible, however, by adopting a continuous-mesh reinforcement, to floor a complete block of dwellings in one operation at comparatively low cost. What certainly is required is a material with which to finish such a floor, which shall at the same time be cheap, warm to the feet, resilient and durable. With such a finish carpets might largely be dispensed with and improved sanitary conditions secured.

Internal Walls.—Finish with Parian cement  $\frac{1}{4}$ -in. thick hand floated upon a backing of Portland cement (1-3). All external angles to be rounded. The best decorative finish for walls of this character is flat oil paint or a washable distemper. The use of an insanitary material such as wallpaper is thus avoided and the surface can from time to time be scrubbed down with soap and water and thoroughly cleansed.

[This paper, while it contains one or two recommendations in which architects as a rule would hardly care to concur, is, on the whole, so sound a summary of the conditions and requirements of housing that we should like to see it circulated widely among all who are interested in housing. Although there have been overwhelming floods of talk about housing, the really practical advice upon it has been by no means plentiful. This paper brings together with admirable conciseness all the chief practical points that must be taken into consideration by those who will be called upon to do the actual work, or who will be at least in close touch with it.]





ONE-STOREY AND “FLATTED” HOUSES.

BELOW and on the following page we reproduce illustrations of two further types of working-class houses approved by the Local Government Board of Scotland and included with their Memorandum on Housing, to which reference has been made in recent issues of this journal. The following particulars are given:

Fig. 1 (Types E and F) shows two types of houses built one storey in height. Type E provides two bedrooms in addition to living-room, scullery, etc. It will be noted that one of the two apartments is entered from the entrance porch, and could

therefore be suitably used as a parlour. The bathroom is entered off an independent lobby, to which, however, access is obtained through the living-room, an arrangement not altogether satisfactory. Type F has similar accommodation to Type E, but has a small third bedroom in addition. The arrangement of the plan is on similar lines. The bathroom, however, is entered directly off the scullery, and this arrangement is open to considerable objection. The bathroom in both types of plans is in close proximity to the living-room fireplace, and the necessary hot water

supply piping is thus reduced to a minimum. The single-storey house, while easily worked and therefore attractive to certain tenants, is not as a general rule an economical type to erect. In practice, however, it has been found that the example illustrated compared favourably in cost with houses of similar accommodation built two storeys in height. This may be due to the ease and rapidity with which this type can be erected and to the small amount of scaffolding necessary. This type naturally involves wide frontages, and is therefore more particularly suitable



FIG. 1.—SINGLE STOREY HOUSES. TYPES E AND F  
(From the L.G.B. [Scotland] Housing Memorandum.)



districts. Houses of these types have been erected at Glengarnock, Invergorrorth, and at various sites in Lanarkshire. Fig. 2 (Type D) shows a group of houses of "flatted" type, each house having an independent entrance. This type, in addition to being most economical, has been found to be attractive to Scottish tenants, and is specially suitable for use in burghal or certain town areas, where it might form a suitable link between the existing tenement buildings and the cottages of the type of house. The entrance to the ground-floor room is from the passage, and each house has a good-sized living-room, scullery, etc., and two bedrooms. Good cup-and-board accommodation is provided. The ground-floor houses have direct access to back gardens. The want of similar houses in the case of the upper-floor houses is greatly felt, as the main entrance is on the side and therefore entrance to the garden can conveniently be obtained. Each house is provided with a separate back garden. Houses of this type have been erected at Glengarnock, Gourrock, and at various sites in Lanarkshire.

It is perhaps useful to explain to the English reader that the expression "flatted house," as used in Scotland, differs somewhat in meaning from what is understood by it in England. In Scotland a "flatted house," or, rather, several houses, may be contained in a flat.

The Memorandum may be purchased through any bookseller or directly from the Stationery Offices, price 1s. net.

## AMERICAN-BUILT DOCKS IN FRANCE.

At American-built docks in France Transatlantic freight from American-built ships has been unloaded, classified, and taken to the front via American-built railway yards since the middle of April, says Mr. R. K. Tomlin, jun., in the "Engineering News-Record." With brand-new berths for ten vessels, in addition to an existing string of docks near by, previously constructed by the French, the great marine terminal of the American Expeditionary Forces, a timber structure supported by wooden piles extends for almost a mile over a site which was nothing but mud flats half a year ago.

Long, low classification sheds flank the shore side of these docks; further inland a receiving yard and a departure yard for the handling of empty and loaded freight-cars are built; specially designed timber rigs, for the handling of ship cargoes, and heavy steel gantry cranes are being erected; railway cars and motor trucks in a steady stream flow along the quay, picking up their burdens of freight for transport, either directly to advance section or for storage at the base for the intermediate depots.

The classification sheds are located in a straight line, with gaps between each pair for open storage. There are in all eight of these sheds; two of them are 312 by 74 feet in plan, while the other six are 205 by

74 feet. They are timber-frame structures sheathed with corrugated iron. All the timber for these sheds came in the rough from the United States and was framed by a home-made steam sawmill.

The base storage depot, which is connected with the departure yards at the docks by a six and quarter mile railway line, is an immense structure, designed to hold three months' supplies for 2,000,000 men. In its essential features it will consist of 144 wooden warehouses, each 64 by 500 ft., two railway classification yards, two receiving yards, one departure yard and three storage yards, involving a total trackage of 117 miles and 815 switches, of which seven are of the double-slip type.

The sight of row after row of these long wooden warehouses reminds one of the big-scale cantonment construction in the United States which was begun about a year ago. This job at the base dépôt in France is one of quantity production, and is being handled by gangs, each trained in a single speciality. The work has been carefully analysed and segregated into certain major operations. Thus in the case of the 500 by 64 ft. warehouse "waves" of construction crews pass in succession over each building. The first gang digs post holes and passes on to the next building. It is followed by a gang which sets the foundation posts. Then come, in order, gangs which saw off the posts at the correct elevations, erect the timber frames, sheath the side, and finally apply the roofing material.

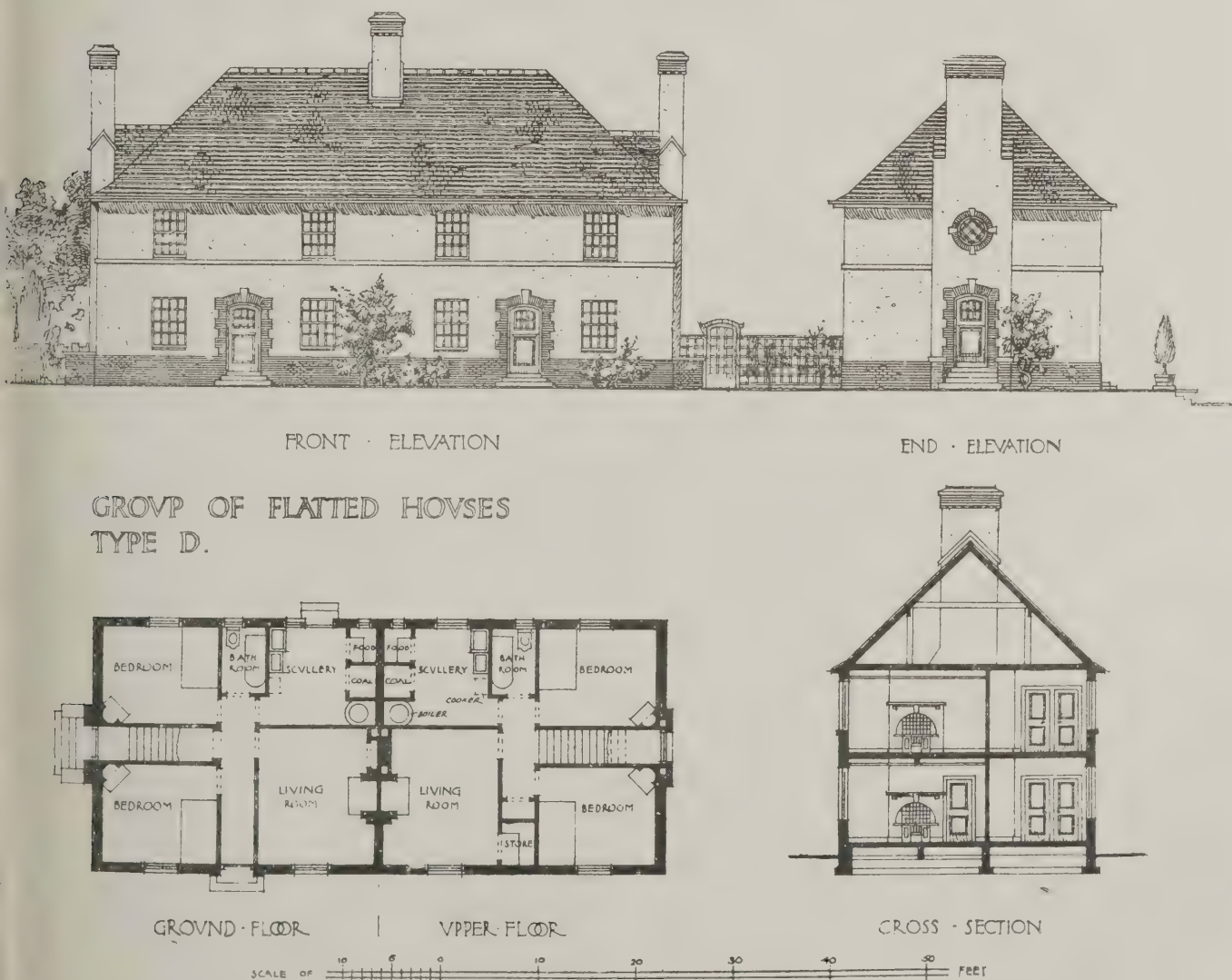


FIG. 2.—GROUP OF "FLATTED" HOUSES, TYPE D.

(From the L.G.B. [Scotland] Housing Memorandum.)



## SCHOOLS OF ARCHITECTURE AND BUILDING.

### *University College, London.*

The prospectus of the School of Architecture (including the Department of Town Planning), University of London, for the session 1918-19 is just issued. The following courses of study are provided:

(1) The B.A. Degree Course (Honours in Architecture) of the University; (2) the Certificate Course in Architecture; (3) the Seniors' Design Class; (4) Certificate Course in Town Planning; (5) Diploma Course in Town Planning and Civic Architecture; (6) Diploma Course in Town Planning and Civic Engineering.

The attractions of University College School of Architecture, in addition to those that naturally accompany a fine up-to-date building and a distinguished staff of professors and lecturers, are its central position, its Engineering Laboratories, Slade School of Fine Art, New Sculpture Studios soon to be constructed, School of Hygiene, Department of Archaeology, and lectures and classes on general subjects. Special facilities are thus offered for a full and comprehensive course of architectural education on a sound basis. Students are brought into touch with others engaged in pursuits to some extent kindred; they work side by side with future engineers, painters, sculptors, doctors, etc. In the lectures on general subjects and in the collegiate life they meet students intending to follow other professions or callings. Such general intercourse is not only advantageous to architectural students during the period of their early study, but is likely to be of lasting benefit to them.

The School is organised so as to give a course of systematic training on a broad basis to students about to enter the architectural profession. The aims of the School are to interest students, to encourage amongst them a spirit of keenness, to help them to understand the importance of the career upon which they are entering, to ground them in construction and the principles of design, and to give them some insight into the nobility and beauty of the architectural masterpieces of the past.

All communications should be addressed to the Provost, University College, London.

### *Clapham School of Building.*

We have received a copy of the prospectus and time-table of the School of Building, Clapham, for the session 1918-19, which opened on Monday last. In it are set forth full particulars of the instruction given, which embraces all branches of the building trade and allied vocations. A copy may be obtained on application to the Principal at the School, Ferndale Road, Clapham, S.W.4. A feature of the new session is a series of public lectures (illustrated by photographs and plans) on "The History of Renaissance Architecture in Italy, France, and England," by Professor Beresford Pite, M.A., F.R.I.B.A.

The lectures will be given on Wednesday evenings from 7.30 to 8.30, followed by class work from 8.30 to 9.30, on the dates as set out below.

Part I.—September 25, Introductory: Relation of Architecture to European History; October 2, The Age; Politics, Religion, and Art in Italy; October 9, Florence and its Duomo; October 16, Filippo Brunelleschi, Sculptor and Architect; October 23, Alberti, Scholar, Poet, and Architect; October 30, Bramante; his Work at Milan; November 6, First Scheme

for Rebuilding St. Peter's; November 13, Bramante's Successors; November 20, Michelangelo and the Tomb of Julius II.; November 27, Michelangelo and St. Peter's; December 4, the School of Venice; December 11, Palladio at Verona; December 18, the Palaces of Genoa.

Admission to the actual lectures is free to the public; no tickets are required; but those who stay for the class work in addition must first take out a ticket at the clerks' office for the full terminal fee of 5s.

The lectures Parts II. and III. and class work will be resumed after the Christmas vacation on Wednesday, January 8, 1919.

## YORK HOUSE.

York House, the residence of the late Sir Ratan Tata, the Anglo-Indian steel magnate who died a week or two ago, stands on an estate which has an interesting history. The records tell us (says a writer in the "Richmond and Twickenham Times") that the original house was at one time called Yorke's Farm, and in 1630 it was subject to a rent of £20 a year. The house appears to have been given, about the time of the Restoration (1660, or thereabouts), by the Crown to Edward Hyde, the great Earl of Clarendon, on the public announcement of the marriage of his daughter to James, Duke of York, afterwards James II. It was this Earl of Clarendon against whom the Cabal was formed by his political opponents. This body, which took its name from the first letters of the names of the members, used to meet and plot at Ham House, on the opposite side of the Thames. The two daughters of the Duke of York, Mary and Anne, afterwards queens of England, were nursed there, and it is thought by some from these circumstances that the Duke of York lived there for a time. It was the favourite residence of Clarendon on account of its nearness to Hampton Court and to Ham House, where the King would often stay with the Duke of Lauderdale, at that time the owner. Among the visitors at this time to York House are said to have been Ben Jonson, Izaak Walton, Edmund Waller, Sir Kenelm Digby, and other famous literary characters of the day.

York House is said to have become the property of the Earl of Rochester, and after many years, and more than one exchange of ownership, it was sold to Lieutenant-Colonel James Webber, who improved the house and grounds at large expense. By him it was sold to the envoy from the Court of Vienna. Some time after 1810 Archbishop Cleaver, of Dublin, took up his residence there. The Hon. Mrs. Anne Damer, who was the next owner, was a great friend of Queen Caroline, and often entertained the Queen there. The house was at length purchased by the Duc d'Aumale, for his nephew the Comte de Paris, who vacated it on his return to Paris in 1871, on the fall of the Second Empire. After being vacant for some years it was sold to Sir Mountstuart Grant-Duff, who lived there for several years, and about 1896 it was repurchased from Sir Mountstuart by the Comte de Paris, who enlarged it, chiefly for the accommodation of books and pictures. In those days one of the chief glories of the house was an old English oak staircase from the inner hall to the upper storey, which was said to be as pure a specimen of the English style as any that then existed, and which was probably erected in the days of Lord Clarendon. The

present Duke of Orleans and his sister, Queen Amelia, now a resident of Richmond, were born in York House. At his marriage the Duke of Orleans, in came to live at York House, the house being rearranged and renovated and finished for his occupation. The basins were all of onyx, and the hot cold water taps were of silver, the floor the hall was relaid with black and white marble, a large room was built to hold the hunting trophies of the Duke, a beautiful marble swimming bath was erected, and the electric light installed. The river front was improved and the garden rearranged. In the wooded park the Duke kept a number of rare animals which he had collected on his travels. We are told that over £40,000 was spent at this time, but the Duke resided in the house for a few years only, it was sold in 1906 to Sir (then Mr.) Ratan Tata. Again great changes were made. Not only was the interior largely rearranged, but a splendid French chateau room was built on the site of what was known as the china-room. This is a spacious apartment, lightly and delicately decorated and furnished, and contains splendid pieces of Beauvais tapestry, as well as some Indian silver ware, exquisite specimens of craftsmanship. The garden, too, were altered, the walls running round the house to the riverside being erected, the sunk garden formed. About this time, too, the Italian loggia on the north side of the house was built, and statuary erected while the rosary on the river side of the road was made and bridges across the river were erected.

## THE PAGEANT OF ST. PAUL'S CATHEDRAL.

The story of modern London, says the writer in the "Sphere," is writ large in the stones of the metropolitan cathedral. There is no other building approachable either in scale or conception in the British Empire. To Londoners it is the symbol of civic dignity, the crown of their commonwealth, a monument to national endeavour, a Pantheon of momentous significance, although the Abbey of Westminster, with the dust of kings, beneath the vaults of Paul's lie entombed Nelson and Wellington. The theory of modern London, in relation to the expression of the Cathedral, can be used advisedly; perhaps it is given to the architect, Sir Christopher Wren, to interpret into stone the forces which in the ensuing centuries would mould the English into a mighty nation. Not only does the building signify the birth of the city after the disastrous plague, but it marks a step in the development of the race, and in its rich simplicity and masculine strength portrays the personality of its designer, even as the work of the architect reveals the lineaments of William of Wykeham. This and more does Paul's convey. We enter from the West End and gaze at the *mise-en-scène* according to mood we are in London of the seventeenth century or brought closer touch with the stirring events of our day. We look around and conjure up visions of progress and humilia- Marlbrough has made his reputation. Wren has descended into the grave, and has died unpensioned. The country Queen Anne is succeeded by the young George I., with a crowd of German retainers, the second and third Georges rule, the American colonies are lost.

(Continued on p. xi.)



(Continued from p. 150.)

the stage is prepared for the struggle with Napoleon. There is something of all in the form of the building, something stirs the imagination to the pageantry history when the vibrant music of the drums resounds high in the dome or breaks waves through the arcuations of the vaults. Again, there is the music of pomp and circumstance in the clangour of the brazen gongs that speak defiance from the camellias insistent over the satellites in the steeple. Napoleon is dethroned, peace is at peace, Vulcan will rule henceforth. Steam is called into being, and the distant Clyde the pulsations of the engines propelling strange vessels the merchants of London. Through the long monotony of the Victorian era Paul's continues the centre of civic concentrations. With the death of Wellington is buried the last of the eighteenth-century heroes, giving scope to the genius of Alfred Stevens, who in a frenzy of inspiration dashed off the design for the memorial on the diagram of the site issued to his competitors. Such thoughts crowd in the mind in vivid sequence as we are enraptured on the gigantic labours of the monument. It is impossible to define how the associations of the Cathedral affect us more than by the obvious method of linking historical facts. The truth, however, remains—in the heart of St. Paul's is the soul of London.

## HOUSING IN IRELAND.

Housing fact and opinion were promulgated at the final meeting of delegates to Municipal Authorities of Ireland Conference, at the City Hall, Dublin.

A paper by Mr. R. Finlay Heron, M.A., on the housing problem after the war, pointed out that, owing to the increased cost of labour and materials, and the huge expenditure for them required for the restoration of continental towns, the cost of building would probably continue for the next generation extremely high, and the greatly enhanced value of money must be taken into account. No new houses would be built except by people who need not have regard to cost, and the speculative builder will have become extinct. His solution of the difficulty would be the adoption of the communal system of living carried on on co-operative lines, such as in the up-to-date garden cities.

Mr. W. Field, M.P., sent a paper on "House of Famine," in which he contended that the agitation to improve Dublin housing must be continued, as those who did not agitate went to the wall. The problem being agitated in Great Britain by the National Congress on home problems during the war. Consequently, the outlook was hopeful because the public opinion of the time was irresistible. One of the needs advocated was the cheapening and expediting of the conveyance of land by immediately superseding the existing expensive, dilatory, and unsafe method of sale and transfer.

The Hon. Secretary said that the Irish Housing Special Committee Report on housing in Irish towns had come to the conclusion that the number of new work-class houses in Ireland was not less than 50,000, and might be as high as 100,000—the mean figure of 67,000 being the basis of the conclusion that to purchase and develop the sites and erect the houses a sum of twenty-seven millions of pounds expenditure would be required.

The Committee considered that, having regard to the circumstances of the workers in Irish towns, a more liberal degree of assistance would be needed than in England and Wales, where the Reconstruction Committee on Housing propose that the Government should relieve the local authorities of 75 per cent. of the estimated annual deficit on housing. "There must be," the report says, "a subsidy sufficient to bring the cost to the local authority well below the pre-war cost," and this subsidy is fixed at 50 per cent. of the total loan charges. As to the type of houses the Committee, while recommending a large scope for experiment, came to the conclusion that self-contained houses with two or three bedrooms, a kitchen, scullery, and bath would be most desirable.

Mrs. Maud Walsh (Tralee) pointed out that while suitable houses had been provided for agricultural labourers, the necessity for suitable living accommodation for the urban workers had been utterly neglected. She did not blame the Government or anyone else in particular. They were all to blame. They had been asleep, and had been awakened from a state of coma by the efficiency of the enemy in connection with this matter. She also pointed out that in dealing with the housing question and other questions affecting the homes, life, and welfare of the people, the women had been utterly ignored. That was a lamentable mistake. It was a remarkable fact that Ireland was the only country in the world where women had been left out of account in reference to this matter.

Alderman Haddon (Wexford) suggested that the various towns in Ireland should have their housing schemes prepared, so that when the scrimmage for money after the war took place they might not be left behind. He also suggested that the committee appointed last year to deal with this question ought to be re-elected.

Alderman O'Sullivan (Cork), agreeing with what had been stated by Alderman Haddon, stated that in Cork they had sought to get into communication with the Local Government Board by means of a deputation on this subject, but the Local Government Board declined to receive the deputation. The manner in which the Irish Local Government Board dealt with local municipal bodies was in marked contrast with how the local municipal bodies of England were treated by the Local Government Board in that country. Cork, he added, was not satisfied with 1,250 houses which had been stated were sufficient to meet its requirements, while Limerick had been allowed 2,000. The interests of Limerick had been very well looked after.

Mr. Walsh (Waterford) said the cheapening of sites was one of the most important questions, and the co-operation of the Government should be strenuously urged.

Mr. Dawson (Tipperary) moved that a Housing Committee should be appointed to prepare a scheme, and that the executive should ask the Local Government Board to give the assistance of Mr. Cowan. It was resolved: "That this Conference directs the attention of the Government to the neglect to provide means for dealing with reconstruction problems in Ireland, and particularly with the housing problem, as already provided in Great Britain, and calls upon the Government to provide adequate machinery for this purpose without delay."

It was decided to appoint a committee of twelve, representing the four provinces, with powers to impress the urgency of the questions upon the Government.

## NEWS ITEMS.

### *Physical Clinic for Sunderland.*

It has been decided by the Sunderland Royal Infirmary to erect a new physical clinic, which will provide, besides orthopaedic treatment, hydropathic treatment. The cost of the building and its equipment is estimated at between £4,000 and £5,000.

### *Crucifixion Windows.*

A matter of considerable interest to church architects is being seriously discussed in religious newspapers. There are, says the "Church Times," hundreds of English churches in which the east window presents the Crucifixion in stained glass, and it is strange that at this stage the Chancellor of Carlisle should raise the question whether such a window is lawful. He observed lately in a faculty case that a design for a window showed what was "practically a crucifix," and that "crucifixes in the abstract had been legally decided against." He reserved the case for consideration.

### *Women on Housing.*

Replying to the London Labour Party's request for women to be consulted as to the internal arrangement of houses to be built after the war, Mr. N. T. Kershaw, one of the assistant secretaries to the Local Government Board, has informed Mr. Herbert Morrison, secretary to the party, that Mr. Hayes Fisher will give instructions to all the inspectors of the Board "that on the occasion of their visits and inquiries they should draw attention to the desirability of consulting women on the plans from the domestic point of view, not the architectural." The letter adds: "Mr. Fisher is about to hold important local conferences on housing policy and plans, and he will take every opportunity of urging the desirability of consulting women representatives of the working classes on the internal arrangements of houses."

### *Fearful Shortage of Cement.*

A leader-writer in the "Financier" fears a shortage in cement supply. Cement, he says, is now an essential munition of war, and the Government, having controlled the output and distribution since April last, are giving every assistance to increase the output. There is little doubt that before very long we shall hear of a shortage of cement, even as we now hear that there is likely to be a shortage of coal and other essentials. Fresh uses are being found daily for the material, and not the least we may mention is that of sleepers for railways. Indeed, we hear that our American cousins have for some time past been using large numbers of these for that purpose and that one railway at least has practically nothing else. Roads are being constructed of the material and make a very fine surface where traction is mostly that of motors. In our own country great quantities will be required, while the export trade will assume large dimensions.

### *The A.A. Evening Schools.*

The Architectural Association Evening Schools, which have been closed since the outbreak of war, will re-open with the commencement of the next day school term, on Monday, September 30. Special facilities for study will be afforded for architectural students serving with His Majesty's Forces stationed in London, of which a number have already arranged to attend the schools. For full particulars application should be made to the Secretary, the Architectural Association, 35, Bedford Square, W.C.1.



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Clerk of the London County Council. 193

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# THE ARCHITECTS' AND BUILDERS' JOURNAL.

OCTOBER 2, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1239.

## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in saving the efforts of the Government Paper Conservancy to eliminate waste. This they may do in one of two ways—*

*By placing a direct subscription for the Journal with the Publisher, or*

*By placing with a newsagent an order for its regular delivery.*

LARGE estates are still being offered for sale with unusual frequency, and the ultimate effect of these transactions is the subject of much conjecture. Generally speaking, it implies the sub-division of large estates, with perhaps half a dozen proprietors where formerly there was but one. In a measure, this makes uneconomical overlapping, expensive increase in building, multiplication of farm buildings, and so forth: here, if anywhere, such expense is remunerative. In any way, it procures increase in the machinery of cultivation, with the "little farm, well tilled," dotting brief intervals the landscape that was aforesaid and barren. On the hitherto large and languid estate there will spring up busy holdings with bustling proprietors, who will make the formerly waste acres prolific of corn or cattle. Their farmsteads, barns, granaries, and sheds will therefore well repay the cost of construction. Further, an inevitable effect of increasing the number of proprietors must be a corresponding increase in the frequency with which holdings change hands, and, as a further consequence, simplification or procedure in land transfer should be effected. It is the great landholders who have always stood in the way of land reform. It was almost a superstition or superstition that their huge estates must be accounted be dismembered. Inherited land was a symbol of their dignity and standing. They were the "Landed Gentry," and they thought that in dividing their land they would be shedding their nobility. They felt that it was rather *infra dig.* to divide their holdings, until "high farming" or intensive culture came in as a gentlemanly amusement. Of course, the former view was a relic of feudalism: the lord who got the grant of land did not mind of doing any work on it—work was for his vassals, who were kept at it by yeomen. His lordship descended to accept the produce, but his business was fighting; and it is this feudal view, of the man who takes the soil taking most of the profit out of it without putting anything into it, that prevails to-day, and makes all transactions in land. These great sales of estates seem, therefore, to herald the final disappearance of feudalism as well as the disintegration of great estates.

Mr. Joseph Chamberlain advocated, some forty years ago, certain land reforms that have not yet taken effect. He asked for free trade in land, doing away with, or very considerably limiting, the rights of making settlements. He supported the proposals to amend or abolish the law of primogeniture, and to open the transfer of land; and he held—this was before he abandoned Free Trade for Protection—that it was true that the thirty million pounds' worth of produce (butter, eggs, cheese, poultry, fruit, vege-

tables) imported ought to be native to this country, it was clear that this kind of product was never profitable except in the hands of small cultivators. "The tenant or the owner of the land must look after the tract himself or else he will have no chance of success. And so," he continued, "we come back to what, after all, is the most urgent and pressing need of all—that we shall, as far as may be, go back to the old system and re-establish the peasants and yeomen who were one of the most prosperous, the most independent, and the most comfortable of all classes in the community." There is, of course, no guarantee that all or any of these estates that have come into the market will be put to profitable use at once; but the chances are that ultimately they will be; for there will be every incentive to swell the nation's wealth by every possible means. With all the tremendous burden of war debt to settle, we shall all have to "scorn delights and live laborious days." Land formerly dedicated to pleasure must be cultivated, or become the scene of industrial activity. Under some of these lordly pleasure grounds, minerals or profitable earths may be found, or quarries or brickfields may be opened; and light railways will intersect the country, to facilitate industry and commerce, and to solve labour and housing problems.

What effect will these changes have on the art and profession of architecture? What is immediately clear is that as there are going to be many more buildings put up—on lands hitherto having too few to the square mile—the architect will have plenty of work to do. True, there will be less monumental architecture. As the house takes the scale of the estate in which it stands, it is clear that the new movement will not tend to the erection of Chatsworths, or other mammoth or monumental houses. Homes, not monuments, will be the new order; and there will be an unexampled demand for them. Hitherto the country house on a large estate has been built for the accommodation and entertainment of wealthy guests, who toiled not, neither did they spin. Their day is past. They have become strenuous and would scorn to be otherwise when their country needs their services, as it will continue to do after the war is over, when it will be on all hands considered to be disgraceful to be idle, and when at length "the dignity of labour" will be generally recognised. This more practical cast of mind will have as its concomitant a less frivolous taste in decoration, which will be neat and appropriate rather than fanciful and extravagant. An interior will present an appearance of sobriety and solidity. Ornamentation will not be necessarily mean or meagre, but it will not be lavish. It will be costly as the purse can bear, "but not exprest in fancy." Be it remembered that there is not a home throughout the land that has not suffered a family loss in the war; and the memory of bereavement will be reflected in the home environment. Gay colouring and fantastic patterns would sort ill with the memorial plaques which may perhaps be regarded as the keynote.

That there is just now much talk of factory construction is natural and useful. Mr. Lloyd George referred to the subject with his usual directness in his famous speech at Manchester. He urged that factories must be healthier, and that plans for reconstruction should be made at once, so that full advantage could



be taken of the impetus of victory when the time for building arrives. To be planning when one ought to be building is to lag sadly to rearward, with a first-class chance of missing the market with the goods. In Manchester they should know something about factories, and apparently Mr. Lloyd George's observations there have stimulated the Press of the city to give space to a subject that was seen to be topical when the Prime Minister touched on it! In the "Manchester Dispatch," for example, room is found for a timely article on "Factory Planning." It is confessed that "formerly the erection of a factory was a somewhat primitive enterprise, demanding little beyond the covering of a prescribed space for the shelter and accommodation of a given amount of machinery and a stated number of workpeople. If the business prospered, more buildings were added in the same elementary fashion, with the result that we have many businesses of worldwide fame housed in a sprawling assemblage of sheds bearing all the marks of haphazard development and without any suggestion of scientific arrangement. The result is a waste of power, of material, and of human effort." Urgent Government demands, and the absence of man-power to meet them, have in too many instances revealed the weaknesses of old-fashioned and unsystematic factory design; and the writer urges that the chief difficulty in the way of reform is the want of complete accord between the engineer and the architect. "Between the architect who tries to disguise a biscuit factory as a mediæval Scottish fortress, and the engineer who is happy with reinforced concrete and corrugated iron in their naked and shameless ugliness, there is a wide gulf fixed," and it is suggested that the gulf may be bridged by associating with architect and engineer a technical expert from the business to be housed—"one who is thoroughly conversant with the whole series of processes carried on in the business, and is able to criticise the architect's suggestion as to the utilisation of space and the engineer's proposals as to the fabric of the building." It is added that a good factory need not be ashamed to look like one, and that the mastery by our American cousins of the problems of factory designs should be helpful in this country.

For a long time it was to America that we had to look for developments and new departures in factory construction. American examples, illustrated from time to time in this journal, have only too plainly demonstrated this fact, which is not altogether humiliating when its underlying cause is explained. As we have observed on other occasions of apology for the out-of-date notions of factory building that seem to prevail in this country, British practice in factory construction is primitive because its tradition of factory building was established before principles could be formulated, and the younger country, building later, has built much better. Of America it has been written by a Chinese observer that "over her unencumbered plains the Genius of Industry ranges unchallenged, naked, unashamed; whereas in Europe it has still to fight for its supremacy, for there it is confronted with the débris of an earlier society." When America shows us the better way, we must needs follow it; and hence it is that our newer factories have been built after the American model, which, with slight modifications, will doubtless be followed pretty generally when, after the war, unprecedented activity in industrial building sets in all over the country. When the demand for additional factories has been satisfied, or perhaps before, the owners of old factories will be anxious to rebuild; for it is certain that the old tumbledown sheds which passed for factories cannot compete with buildings of the new and scientifically designed type, which architect, engineer, works manager, and experienced contractor co-operate to produce.

Luckily the abortive railway strike that for a moment threatened to paralyse the country's means of inland transit and even to imperil our success in the war came to an ignominious end last Wednesday, before it could do irreparable damage. A matter of national rather than of sectional concern would come into our purview even if it did not recall painful memories of the labour troubles that, before the war, threatened to bring the entire building industry to a standstill. In both cases the mischief arose from internal rebellion by a turbulent minority of irreconcilables. It may be remembered that the London Master Builders had made liberal concessions to the demands of the workers, and the terms had been agreed upon with all due formality, the workmen seized upon the very first pretext for breaking the agreement. They put their accredited leaders in a most embarrassing position, for the outbreak was utterly dishonourable. Very similar was the conduct of the railway workers, among whom, however, rebels never pretended for a moment to accept the agreement made in their behalf by their duly appointed representatives. As Mr. J. H. Thomas, M.P., general secretary, told them to their face, "You South Wales decided without consultation, without intimation, without considering for a moment the society of which you are members, ruthlessly to repudiate the agreement, and to strike on your own responsibility." That is the canker that threatens to destroy the trade unions and inhibit the practice of collective bargaining. This refusal to play the game in accordance with the rules is a very ugly portent, having more than the significance of a mere industrial disturbance for it substitutes anarchy for order, and by subverting the principle of majority agreement, menaces the ruin of the entire social fabric, because mutual confidence is the cohesive which binds its elements together. Destroy that mortar and the edifice falls to pieces, however laboriously it may have been built up.

## THE PLATES.

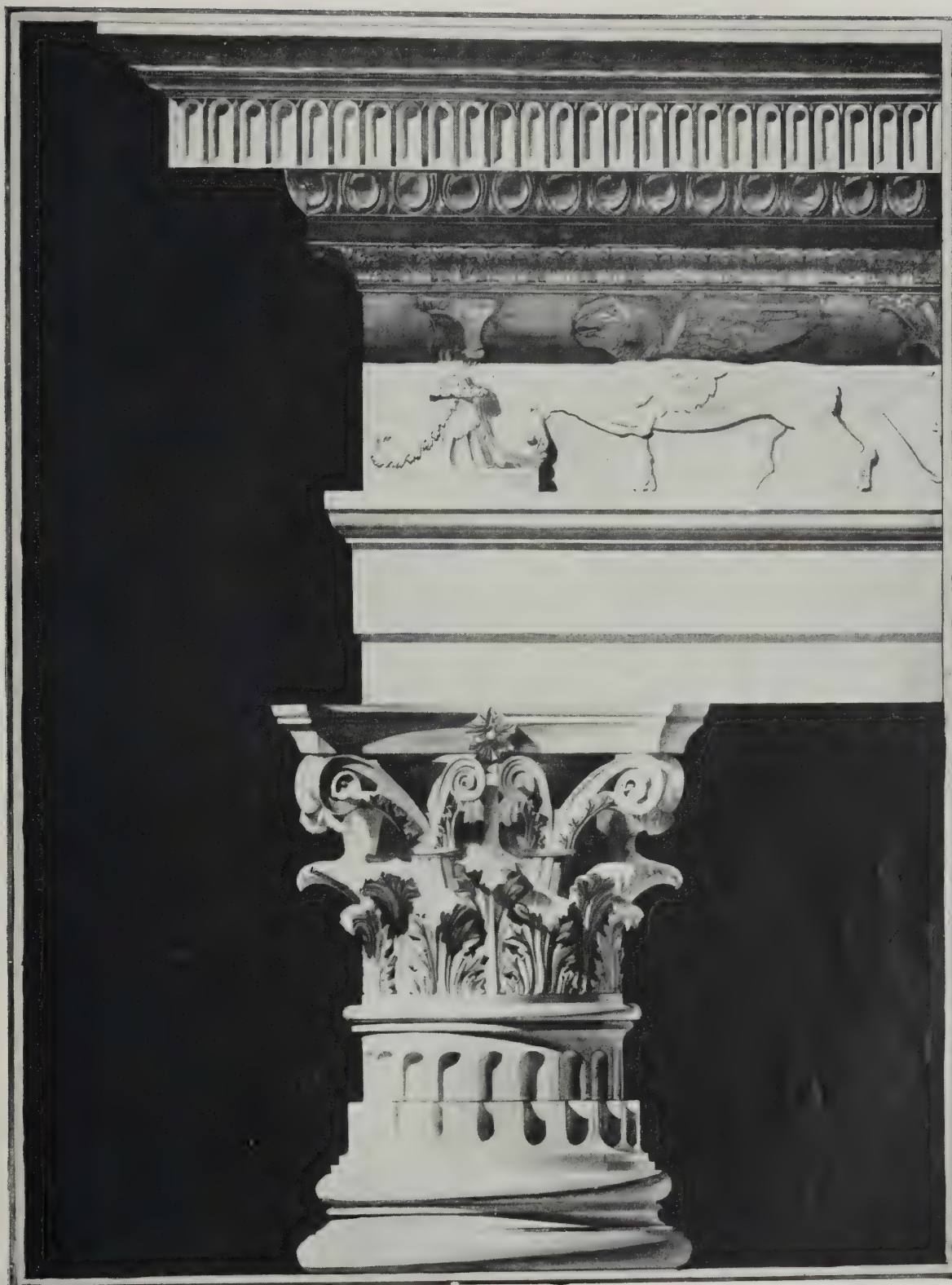
*Drawings by Liverpool University Students.*  
SOME notes on the Annual Exhibition of the Liverpool School of Architecture, in which the drawings appear, are given on later pages of this issue.

### *Elevations for L.G.B. Model Housing Plan*

It has been objected by certain critics that the model plans issued by the L.G.B. in their Housing Memorandum of November, 1917 (published in the issue of February 6, 1918) do not lend themselves to the production of satisfactory architectural elevations. We have received, and publish on our double-page supplement, some sketch elevations showing the possibilities of some of the plans in this collection. The author of the designs, a well-known architect, modestly disclaims any particular architectural merit in his work; but we think our readers will agree that the elevations are not only quite charming examples of their kind, but prove conclusively that the L.G.B. plans admit of simple and suitable architectural treatment. Further designs in the series will appear next week.

### *The Liverpool Cathedral War Memorial.*

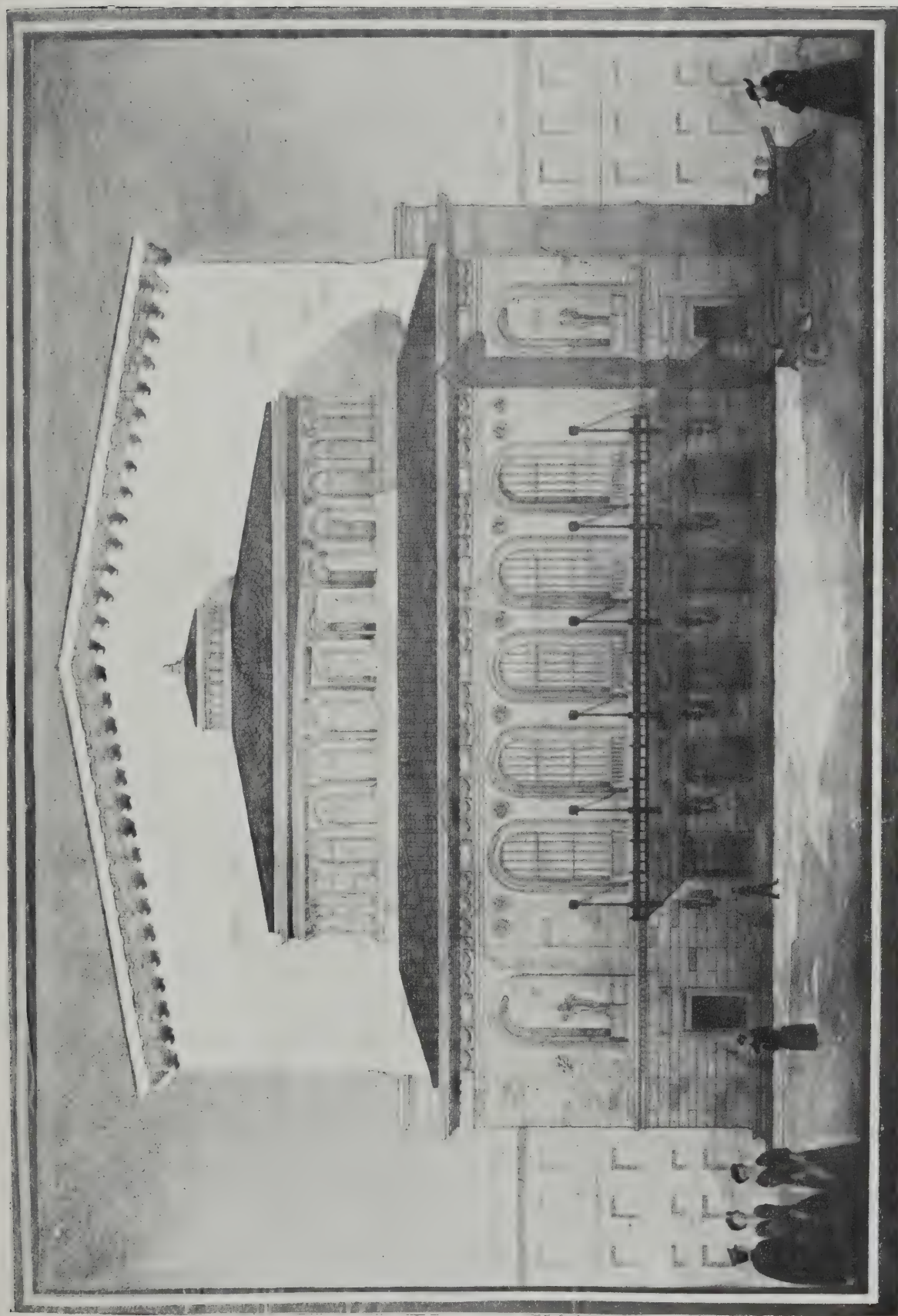
With regard to the drawings of the cathedral war memorial, published in the Journal for September 11, we are informed that the one described as "Decorative Panel on Reredos" is really a special leaf of the Capetown Cathedral Roll of Honour Book, and was included in the appeal for funds for the purpose of showing how it was proposed to record the names of the fallen. We regret that, through misunderstanding, the illustration should have been wrongly described.



STUDENTS' DRAWINGS (SERIES III.). XIV.—ANALYTICAL STUDY OF THE CORINTHIAN ORDER,  
BY B. BUTLER, FIRST-YEAR STUDENT, LIVERPOOL UNIVERSITY.



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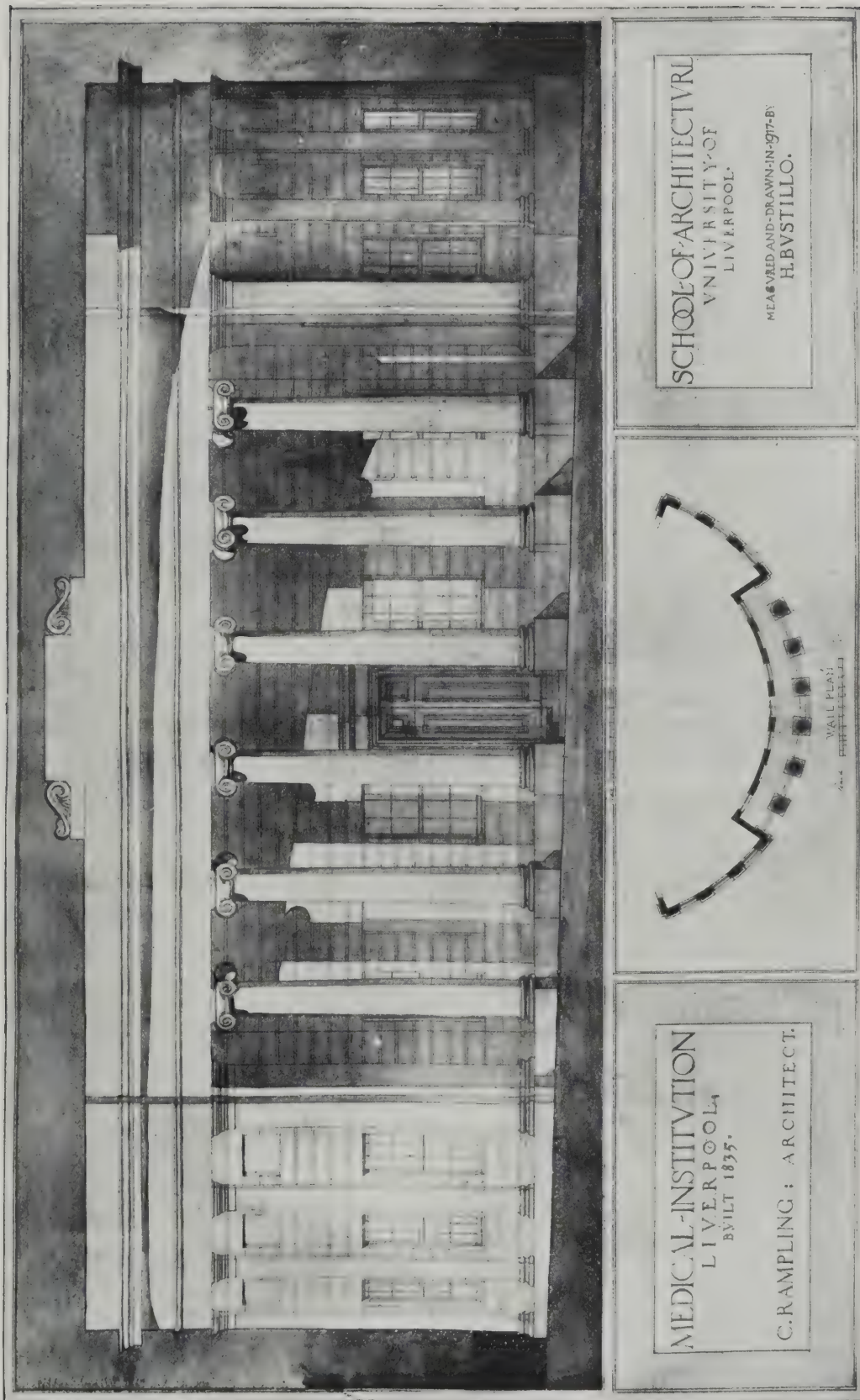


STUDENTS' DRAWINGS (SERIES III.). XV.—ENTRANCE FAÇADE OF A MUNICIPAL THEATRE.

BY H. BUSTILLO, SECOND-YEAR STUDENT, LIVERPOOL UNIVERSITY.



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WALL PLAN  
H. BUSTILLO

MEDICAL INSTITUTION  
LIVERPOOL,  
BUILT 1835.  
C. RAMPLING : ARCHITECT.

STUDENTS' DRAWINGS (SERIES III.). XVI.—THE MEDICAL INSTITUTION, LIVERPOOL.  
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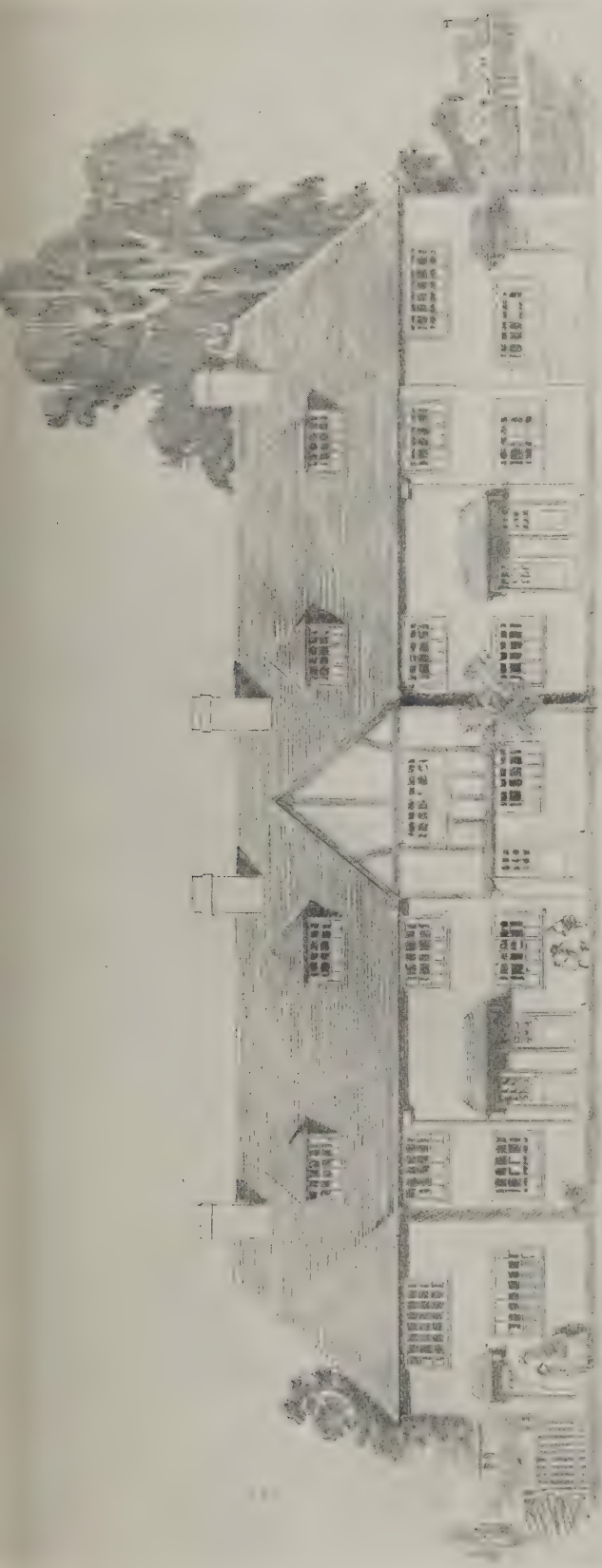
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SKETCH ELEVATION OF  
L.G.B. MODEL PLANS  
A BLOCK OF FOUR OF  
PLAN N<sup>o</sup>



SKETCH ELEVATION OF  
L.G.B MODEL PLANS  
A BLOCK OF SEVEN  
PLANS NOS 1 AND 4



CURRENT ARCHITECTURE (SERIES V.), XLVIII.—SOME DESIGNS FOR ELEVATIONS TO FIT THE MODEL PLANS OF THE  
LOCAL GOVERNMENT BOARD.  
BY A WELL-KNOWN ARCHITECT.



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## HERE AND THERE.

HAT is all this pother about the Adelphi? One is rather glad it was raised, whether or not it is to be thrust into the overcrowded category of much ado about nothing. Although there have been no immediate occasion for the outcry, it is ample justification for it. In London our architectural treasures are not so redundant that we afford to keep silent when any of them are threatened. If in such instances the noble rage of newspapers is a little forced, why, the public ear is over-sensitive; and if the data about the sacred have been too obviously "swotted up" for the nation, they are so much the more likely to be notably accurate than they would be if they were put out casually by somebody having them at his fingers' ends and flinging them free "rather as it comes," as the costermonger said the constable did the truth. But the grand fact is that the treasures are thought worth talking about. It is no matter how the talking is done; the point is to get it done at all. As a result of newspaper agitation, whether or not it was prompted by the menace of injury, hundreds of our citizens have learnt more about the Adelphi than they knew before.

The history of the Adelphi really begins with the Adelphi House, where Sir Walter Raleigh lived for many years—from 1583 to 1603—and where, in his "on a little turret that looked into and over the Thames," he probably wrote several of his poems. Some of his prose, smoking his pipe as he did it, being perhaps the first man in England to associate authorship with tobacco, a partnership indissoluble for ever after. On the Strand front of the Adelphi House was built the New Exchange, which of such length of frontage that it filled the space occupied by Nos. 54 to 64 in the Strand, with the bank of Messrs. Coutts set in the midst thereof. It was begun in 1608, and "consisted of a basement, which were cellars; the ground floor, level with the street, a public walk; and an upper storey, in which were stalls or shops, occupied by milliners and dressers, and other trades that supply dresses." It became a place of fashionable resort; and as such was frequently referred to in Restoration plays. A modern play, Douglas Jerrold's "White Lies," concerns the Duchess of Tyrconnel, who, when her fortunes had fallen, supported herself here for many days by the work of her hands.

Adelphi Yard, having on it then nothing but a few ruins, was bought by the brothers Adam, and built upon it, in 1768, the Adelphi Terrace and the streets running at right angles to it into the Strand—Adelphi Street, John Street, Robert Street. It is in that "Scotchmen are proverbially fond of their country, and the immense building speculations which the Messrs. Adam had entered afforded an opportunity of giving employment to their countrymen, as well as of obtaining their services, engaged in Scotland, at a lower rate of wages than was demanded by English bricklayers and masons. Some hundreds were therefore imported from Scotland, and came attended by half a dozen pipers, for the purpose, it was asserted, of keeping up the national feeling. These pipers played while the embankments were formed and the foundations laid; and as the sweet chords of the lyre of Orpheus are said to have moved inanimate objects, so arose the Adelphi to the squeak of Scotch bagpipes." It is further related by this whimsical wag of a writer that when the Scots

labourers found that they were being paid less money and working more hours than were current in London they downed tools. (I beg the author's pardon: his very respectable mid-Victorian English is, "they consequently very speedily relinquished work.") Then the resourceful brothers Adam got men from Ireland, and, says our author, "it was this importation from Ireland, I believe, that first opened the channel for the export of labourers and hodmen to England, which stream of immigration has flowed regularly from the same source down to the present hour." It seems that the Irishmen, though satisfied with their long hours and short pay, were not long in rigging up a sentimental grievance. They heard that the Scotsmen had had music thrown into the sorry bargain. They consoled themselves with the reflection that at all events they had been "fiddled" by the ingenious brothers Adam.

In Adelphi Terrace died, in 1779, David Garrick. While the Adelphi was a-building, Garrick applied for and obtained the western corner house of Adelphi Street for his friend Andrew Beckett the bookseller. Garrick, to overcome the reluctance of the brothers, who seem to have had always a bargaining way of holding off from a conclusion until the client's appetite was thoroughly whetted, promised that he would visit the shop twice a day, and make it as fashionable as Tonson's, and his letter on the subject was addressed to "the dear Adelphi." In the back room in which Garrick died, there is, or was, a chimney piece that is said to have cost £800. If that was its original cost, what must it be worth now? In the Adelphi there must be many similar treasures, and it was the knowledge of their existence and the fear of injury to them that prompted the outcry against further occupation by the Air Board. Dr. Johnson must have often warmed himself before that chimneypiece, for he was a frequent visitor to Garrick's house. It was Johnson who said of him that "his death eclipsed the gaiety of nations."

Garrick had a good conceit of himself, but it was nothing to the egotism of Robert Adam. Mr. R. S. Clouston, quoted by Mr. Austin Brereton in "The Literary History of the Adelphi and its Neighbourhood," observes on the redoubtable Robert's colossal belief in himself, that "early in life he had made up his mind that he was to take the world by storm, and he proceeded to do so with the most absolute confidence, in spite of disadvantages of which he must have been at least partially aware." One of these was a Scots accent that, as the saying goes, you could cut with a fish-knife: and, says Mr. Clouston, "Adam may have been able to speak fairly fluently in both French and Italian; but if his ordinary mode of speech was, as it must have been, broad Fifeshire with a top-dressing of Midlothian, it could not have constituted the best introduction to London society. Yet from the first he was both a social and a professional success, and his immediate reception, despite his Scotch speech and his new gospel, says more for the immense power and personality of the man than any number of words. . . . Even his book on the palace at Spalatro, instead of being an expensive way of bringing him before the public, was a great commercial success." Robert also was a great commercial success; but also there was enough art in him to make his mantelpieces worth preserving. Even the Office of Works knows this (now it has been told so by the Press), and is going to board up any delicate bits that otherwise might suffer damage.

DIOGENES.



## THE ANNUAL EXHIBITION OF THE LIVERPOOL SCHOOL.

**A**N exhibition of students' architectural drawings in the fifth year of the war does not arouse immoderate expectations. During the past four years events have conspired to discourage the arts in general and architecture in particular. Upon the very practice of the latter an almost absolute embargo has been laid. Its public, sufficiently exiguous before, seems now to have disappeared altogether, completely absorbed in more pressing interests. The reaction of existing conditions upon architectural education has necessarily been severe. The war has depleted the staffs of the schools and the number of students taking courses, leaving only those of low medical category or of foreign nationality—neutral or allied—to continue their work.

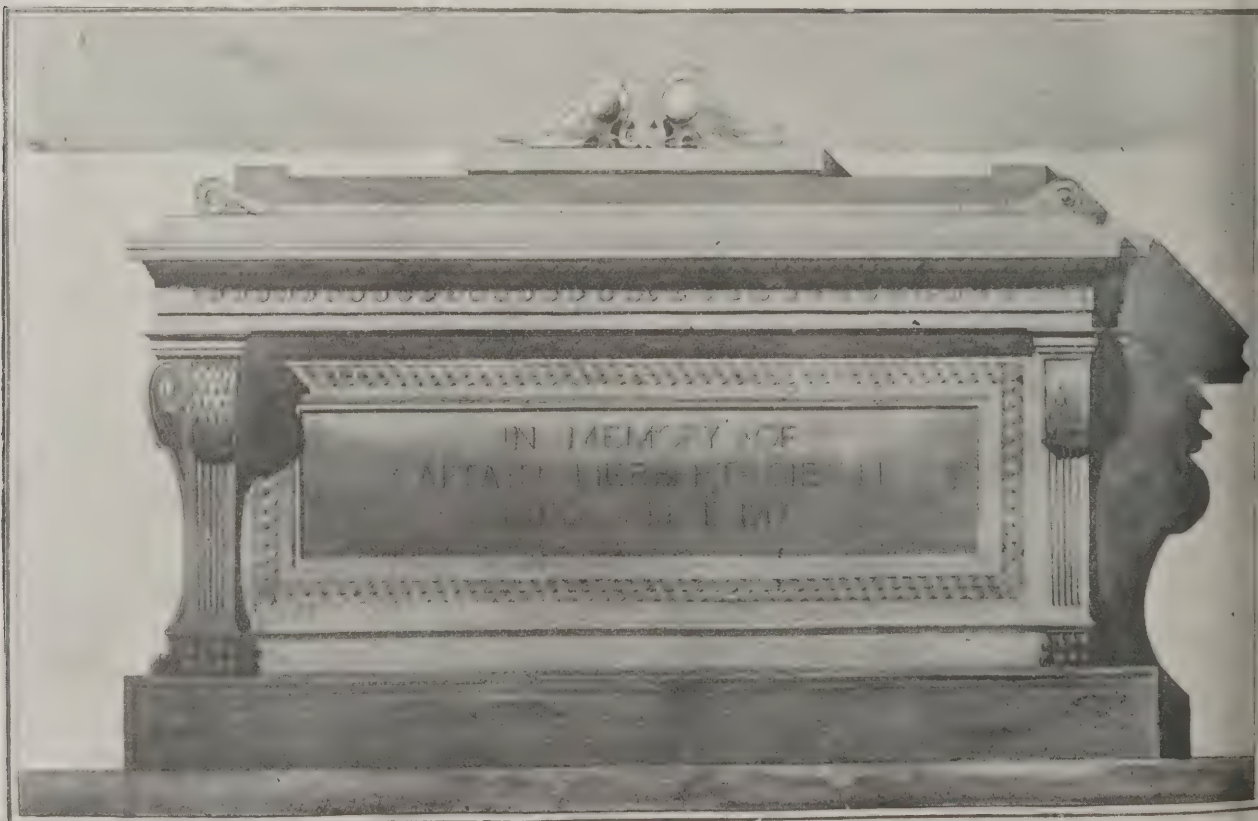
As far as the Liverpool School is concerned, the most discouraging period has been passed. In 1910 the attendance fell to its lowest point. Since then it has gradually but steadily risen, partly owing to an increase in the number of foreign students, partly owing to the return to civil life of men invalided out of the services. The current exhibition, therefore, whilst still a very different affair from that of 1914 (when more than four hundred drawings were hung) has this distinction over its two immediate predecessors. The selection of work on view is more varied in authorship, and a wider range of subjects has been covered.

Measured drawings are less numerous than usual and constructional studies more common. The most complex example of the latter is a steel-frame building, four stories high—the city offices, showroom, garage, and repairing shop of an automobile manufacturing company—by Mr. Gordon Hemm (Diploma). This was a final examination subject, and as presented by Mr. Hemm was elaborated in a series of working drawings, accompanied by a full specification and



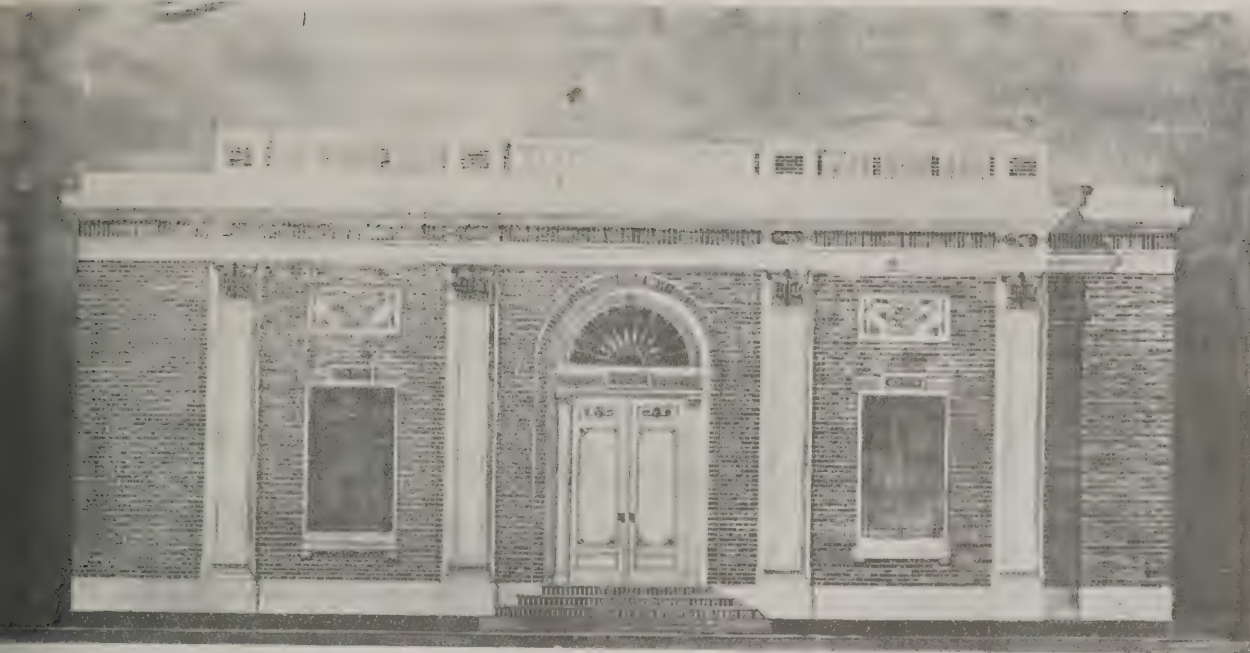
DESIGN FOR AN OFFICE BUILDING.

BY F. JENKINS



DESIGN FOR A MEMORIAL.

BY P. WILLIAMS AND B. BUTLER (FIRST-YEAR STUDENTS).



DESIGN FOR A READING ROOM.

BY C. A. BARMAN (SECOND-YEAR STUDENT).

rt. On the whole, a very competent perform-  
 Mr. Saroj Subhung, who obtained a First-  
 Certificate and to whom was awarded the First  
 Prize (£15), and the Holt Travelling Scholarship  
 Architecture, displays an entirely remarkable  
 ude in classical design. His work is consistently  
 ; and, incidentally, exceeds in mass that of any  
 student. A certain capriciousness of tempera-  
 appears in the designs of Mr. C. Barman (First-  
 Certificate: Second Lever Prize). His ability is  
 uestionable, but his efforts appear to be  
 iciently sustained. Too many *projets* fail to be  
 orted by sufficient plans and sections for them to  
 plicable in detail. He makes several interesting

experiments in rendering. Mr. H. Bustillo (Second-  
 class Certificate) has produced some particularly good  
 measured studies. Of the first-year students, Mr. B.  
 Butler seems quite the most promising. His output,  
 both qualitatively and quantitatively, is exceptional for  
 a student of his standing. Good drawings are shown  
 by R. C. Dauber, M. R. Kelly, G. W. Gregory, P.  
 Williams, W. M. Rushworth, J. E. Marshall, C. A.  
 Browne, and Miss F. Krajewski. The best individual  
 drawings in the exhibition are two colour-sketches by  
 by Mr. F. Jenkins, Instructor in Rendering in the  
 school. One is a park vista in the Guérin convention,  
 the other a design for a block of offices, treated with  
 ink washes ranging from orange to green.



BY S. SUBHUNG (SECOND-YEAR STUDENT).



## BOOK NOTICES.

*Town Planning in Madras.*

This book is based upon lectures delivered in Madras in January, 1916, to the councillors and officials of the Presidency, the object of the author having been to give a broad view of the general principles of town planning and to demonstrate the application of those principles to the economic and social conditions of Madras. Mr. Lanchester must have accomplished his purpose with marked success, for the book, which has a much wider interest than its title implies, is undoubtedly one of the best informed and most illuminating studies of town planning yet produced. It falls into two more or less distinct sections—one taking the form of a brief historical and general survey of the subject, the other dealing more specifically with the peculiar problems of Madras.

Mr. Lanchester is exceptionally well qualified to speak with authority on his subject, for, in addition to holding several university and other appointments in connection with town planning and civic art, he has had valuable practical experience as the author of schemes for Gwalior, Indore, and Ujjain; and it will also be remembered that he was appointed in 1912 to advise the Government on the important subject of a site for the new Delhi.

The earlier chapters of his book set forth very clearly and concisely the universal principles of town planning, and might well be republished separately as a primer for students. Such a book, having behind it the authority of an expert such as Mr. Lanchester, should have a wide field of usefulness, especially now that public interest has been aroused by the promise of enormous developments in housing and town planning after the war.

The introductory portion of the book consists of eight chapters on the following subjects: "The Ethics of Town Planning," "Historical Outlines of Town Planning," "The Civic Survey," "Economic Studies," "Tradition and City Development," "City Life and Housing," "Commerce and Traffic," "The Technique of City Development." These chapters not only reveal erudition, ripe scholarship, and an



THE HARBOUR, MADRAS.

(From "Town Planning in Madras.")

imaginative mind, but show the author to possess in an unusual degree the gift of imparting information to others in an attractive manner. His chapter on the history of town planning is one of absorbing interest. Sketched in broad effective outlines, it traces the development of town planning from the earliest times up to the present day—numerous plans of all periods illuminating and reinforcing the text.

The author shows how man's first habitation developed from the circular to the rectilinear, and advances the interesting theory that this determined the rectangular form of street plan which, with exceptions and modifications, has generally prevailed through history. He shows how the assymetrical planning of the early Greeks was superseded by a more regular lay-out, and how, later, the Romans based their cities upon the rigidly rectangular model of the military camps. He relates how,

during the mediæval period, all this place to a fascinating irregularity—deliberate, partly accidental—and how the formal and symmetrical ideal again turned with the Renaissance. He describes the more modern system of planning—the combinations of radial and rectangular forms, and also the geometrical—touches upon the influence of fortifications upon cities, the mechanical "gridiron" plan of modern America, the English "utilitarian" plan of nineteenth century industrial growth and other points of evolution. The thesis, though brief, is very clear, and affords a complete and connected survey of town planning development.

The chapter entitled "The Civic Survey" is a constructive proposal of great interest. "We now reach a point," says Mr. Lanchester, in leading up to it, "where town planning arrives at a new stage. Up to within the last half-century it has been based on considerations of purely artistic, but rarely and only incidentally sociological. Of late years it has been gradually reaching the conclusion that sociology is the principal basis of town planning, hence the necessity of a civic survey analysing all the influences that dictate the city's structure and growth in its development. By this means it is hoped to arrive at a just balance between the demands of the various factors that make for the best forms of civic life. It is often in the past one aspect has been allowed to dominate the others."

Mr. Lanchester's "Civic Survey" is to be very full and comprehensive, embracing almost every conceivable detail of economic and social life (not excluding moral), in addition to historical, architectural, and topographical information. It contains facts relating to natural wealth—vegetable, animal, and mineral. The author has put his precepts into practice at Madras, the results are fully set forth in this book. He has also prepared a number of plans for the city (reproduced in the book as follows) showing not only contours, suggested improvements, and so forth, but such



PLAN OF SUGGESTED IMPROVEMENTS IN THE CENTRAL AREA, MADRAS.

(From "Town Planning in Madras.")



# MADRAS TOWN

View of area around  
Fort Saint George



LANCHESTER & RICKARDS  
47 BEDFORD SQUARE LONDON W.C.

VIEW OF SUGGESTED IMPROVEMENTS, ETC., IN AREA AROUND FORT ST. GEORGE, MADRAS.

LANCHESTER AND RICKARDS, F.R.I.B.A., ARCHITECTS.

(From "Town Planning in Madras.")



resting details as caste areas, the localities of various trades, industries, and professions, the distribution of the population, mortality, ground values, etc. The cartographic method of representation is as excellent as it is uncommon. Some such system might with advantage be generally adopted in this country, where an astonishing ignorance prevails with regard to the essential character and condition of towns and cities. Not only would it help municipal authorities to appreciate the true nature of their responsibilities, but it would have the effect of stimulating among the inhabitants a new interest in their environment—would excite a civic patriotism, the absence of which is one of the most regrettable defects of modern communal life.

Mr Lanchester has obviously made a very close and careful study of his subject. The section dealing with Madras reveals an intimate acquaintance with Indian social and economic conditions and a sympathetic regard for Indian traditions, ideals, and arts. We have no space to deal adequately with the interesting suggestions that are made towards the civic uplift of Madras, though, after a general study of them, we cannot but realise the considerable improvement that they would effect. Some notion of their extent and character may be gained from the accompanying illustrations.

"Town Planning in Madras." A Review of the Conditions and Requirements of City Improvements and Development in the Madras Presidency. By H. V. Lanchester, F.R.I.B.A., M.T.P.I., etc. London: Constable & Co., Ltd., 10, Orange Street, Leicester Square, W.C. Price 12s. 6d. net.

### COMING EVENTS.

#### *The Institution of Municipal Engineers.*

The tenth annual general meeting of the above institution will be held at Southall, Middlesex, on Wednesday and Thursday, October 9 and 10.

The programme is as under:

#### WEDNESDAY, OCTOBER 9.

10.30, Adjourned Council Meeting at Town Hall; 11, Assemble at Town Hall; 11.15, Reception by the Chairman of the Southall-Norwood U.D.C. (W. Cantwell, Esq., J.P.); 11.30, Annual General Meeting: Minutes of last meeting. Presentation of Annual Report of Council. Announcement of Ballot for Council for year 1918-19. Installation of President. Any other business. Presidential Address. The Secretary will present a contribution descriptive of the activities and growth of the Institution during the decade 1908-1918; 1, adjourn for luncheon (price 3s. 6d.); 2, proceed on visits as follow: Messrs. Lowden's Lamp Works. View complete manufacture of electric incandescent lamps; 3, Trade Waste Purification Works and Tin Salvage at Messrs. Ticklers' Factory; 3.45, Victor Tyre Works. Inspect reinforced concrete building and view shell making; 4.15, Arsenal New Building. Inspect reinforced concrete structure in progress, together with examples of "Belfast" roof trusses of from 50 to 100 ft. span, built up of short lengths of timbers; 5, Open Air Swimming Baths; 5.30, Council's Dock; 6.15, Tea in the Manor House Grounds, at invitation of the President; 8, Invitation Smoking Concert.

#### THURSDAY, OCTOBER 10.

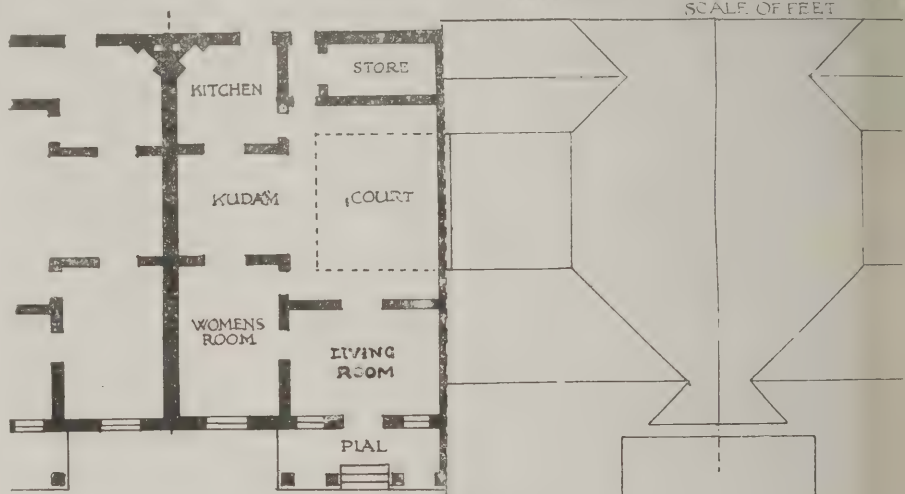
10, Meet at Hanwell Broadway (Tram Depot); 10.15, proceed to the Southall-Norwood Sewage Disposal Works (chemical precipitation combined with bacterio-

logical treatment) and laboratory; 11.15, Mr. J. H. Edmondson, F.C.S., chemist and manager of the works, will present a paper, "The Management of Small Sewage Disposal Works," Discussion; 12, visit the Sewage Disposal Works of the Hanwell U.D.C.; 1, luncheon at the Park

Hotel, Hanwell (price 3s. 6d.); 2.30, proceed to Southall by train (1½d.); 2.45, visit Maypole Margarine Works and inspect the whole of the processes of manufacture; 5, tea at the Maypole Works by kind invitation of the managing director of the company.

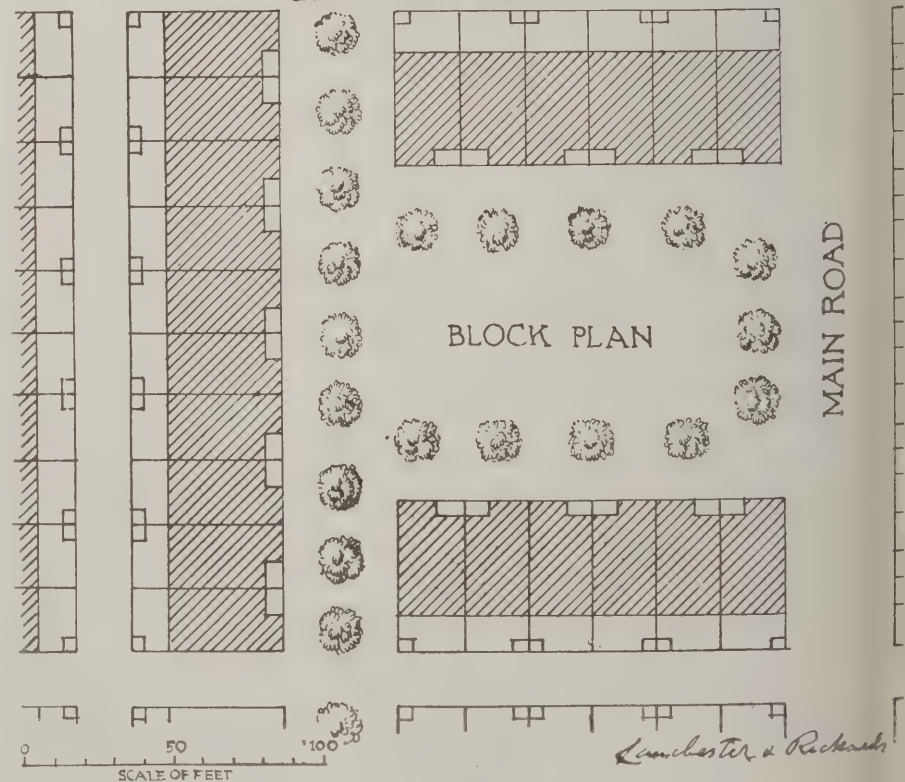


ELEVATION



GROUND PLAN

ROOF PLAN



BLOCK PLAN

DESIGN FOR COURTYARD HOUSES, MADRAS.

LANCHESTER AND RICKARDS, F.F.R.I.B.A., ARCHITECTS.

(From "Town Planning in Madras.")





## WAR BUILDINGS SECTION

### DEVELOPMENT OF THE OPTICAL AND CHEMICAL GLASS INDUSTRY.

#### BUILDING UP A BRITISH INDUSTRY.

An article in the "Board of Trade Journal" states that allied to the Potash Production Branch of the Ministry of Munitions is the branch which controls optical munitions and glassware supply. These branches were under the same Controller, the late Mr. A. S. Esslemont, F.R.S.E. Potash salts form an essential ingredient in glass making, so that the very great development which has taken place in the production of British glass could not have been possible had not the parallel development in potash production been taken place.

#### British Dependence Upon Germany.

Although when war broke out optical glass had been manufactured in England for seventy years, we were dependent upon Germany for 60 per cent. of our supplies. Forty per cent. came from France, the balance of 10 per cent. made in the country was the production of one firm, Messrs. Chance Bros. and Company, of Birmingham. Until Germany developed at Jena an optical glass industry upon a large successful commercial scale, the works of Messrs. Chance Bros., and the imports from French makers, supplied practically the optical glass used in Great Britain. The German experimenters and manufacturers received substantial financial support from their Government, and were specially encouraged in every way. The man industry and research, adequately backed by money, made the name of the works famous all over the world. Many new and valuable types of optical glass were discovered and made, and by the time the German industry had reached the position which has just been described, it contributed 60 per cent. of all the glass used in this country. Without the production of optical glass for munitions upon a scale far exceeding that of peace, naval and military operations could not have been efficiently carried on, yet the country was threatened

at the outbreak of war with an immediate reduction by more than one half in its supplies of glass.

#### Developing British Production.

When the Ministry of Munitions came into being in 1915 it was immediately apparent that very special and extensive efforts would be necessary if the supply of optical munitions was to keep pace with the enormous and rapidly expanding demands of the Navy and Army. Every naval and military operation is dependent on optical instruments of precision—Gun sights, range-finders, periscopes, field glasses, telescopes, photographic cameras, and so on. Since Messrs. Chance Bros. and Company, Ltd., were the sole manufacturers of optical glass in England before the war, they were given direct Government assistance to extend their works. An agreement was made between this company and the War Office, Admiralty, and Ministry of Munitions, on January 4, 1916, under which Messrs. Chance Bros. undertook by the end of the following month to complete an extension which would considerably increase their output. This agreement, in addition to providing for an increased output of optical glass, also made provision for the maintenance of a very large reserve. The agreement provided also for a Government representative, who was empowered to settle any points of dispute in consideration of the increased output. The Government Departments concerned undertook that, provided Messrs. Chance Bros. fulfilled their part of the agreement, British optical glass would be used as far as possible exclusively for optical instruments required for naval and military purposes.

#### Further Measures.

The agreement was made on January 4, 1916, and was very soon followed (April 11, 1916) by a supplementary agreement, by which the firm undertook to extend their

works still further in order to increase both the production and the reserve stocks. It had also become evident that the area of optical glass production must be extended if the risk of a complete breakdown were to be avoided. Messrs. Chance Bros.' factory at Birmingham was within range of enemy aircraft, and, moreover, could not by itself cope with the demands for glass which were impending. It was therefore decided to have another manufacturing centre. An agreement, on lines very similar to those with Messrs. Chance Bros., was accordingly entered into with the Derby Crown Glass Company, Ltd. In both instances the agreements cover a period extending for ten years after the signing of peace.

#### Effect of the Government's Measures.

Scientific research into the chemical constituents and optical properties of the various necessary kinds of glass has moved hand in hand with commercial production. In 1913 there were some eleven types of optical glass made in England, and the total home output was no more than one-tenth of the then home requirements. At the present time about seventy-five types of glass are being made in this country. It is true that some of these glasses show very slight variations from the one from another, but they have been designed and manufactured with the distinct intention of meeting specific needs. The expansion in output has been almost incredible. During the first quarter of 1918 English makers produced more than ninety times as much optical glass as was manufactured in this country during the first quarter of 1913. They were thus making glass at a rate nine times as great as the total consumption of the United Kingdom in the year before the war.

#### Chemical Glass.

The manufacture of chemical glass did not exist in Great Britain before the war.



Supplies were chiefly obtained from German and Austrian sources, and although considerable stocks of German glass were held here they quickly became exhausted after the outbreak of hostilities. The position became serious, and would have been even worse but for the enterprise of one dealer and of two manufacturers of other types of glass. When the Department of Optical Munitions was instructed to purchase the glassware needed by the War Office, and to develop the chemical glass industry, it was considered after due deliberation that in order to develop that industry and safeguard war supplies, more especially those of the Army Medical Department, some strict form of control over the manufacture of the more important types of glassware would have to be put into operation. Already great difficulty had been experienced in obtaining army medical supplies, and it was felt that in view of the probable call upon the manhood of the nation and consequent labour shortage, and the probability that casualties would not be fewer, some steps should be taken at once which would enable the Department to cope with almost any situation. An order of the Minister was therefore issued on January 2, 1917, making it illegal for manufacturers to execute orders for chemical and medical glass and glass tubing and rod unless such orders were approved by the Department, or unless a direct Admiralty, War Office, or Ministry of Munitions contract was quoted, and also requiring manufacturers to render returns of their total output. A consolidated Order was issued on September 10, 1917, cancelling the previous Order and controlling glassware of all types.

This Control was largely a precautionary measure, which was approved by the majority of manufacturers and users. The Department is able by refusing to approve orders for glass to ensure that firms shall

concentrate on the Government work they have in hand. The Department is given an opportunity, which is of the greatest value in developing the industry, of obtaining by means of the returns rendered by manufacturers and importers such accurate and detailed information as will enable it to watch the progress closely, and to concentrate at any point where extra weight is needed.

### A THREE-TRACK TRESTLE IN REINFORCED CONCRETE.

Heavy loads and special conditions of loading were involved in a three-track trestle of novel design at the new Haselton No. 5 blast-furnace plant of the Republic Iron and Steel Company, Youngstown, Ohio. The bents, which are spaced 16 ft. c. to c., are of reinforced concrete, each having two posts and a heavy cross girder or cap with cantilever extensions beyond the posts. Extending between the bents and built integrally with them is a reinforced-concrete wall, which carries a rail for one leg of a travelling gantry crane and acts as a retaining wall for the ore stock-pile. The bridge of the crane spans the trestle. It carries a trolley with grab bucket, serving the tracks, bins, and stock-pile.

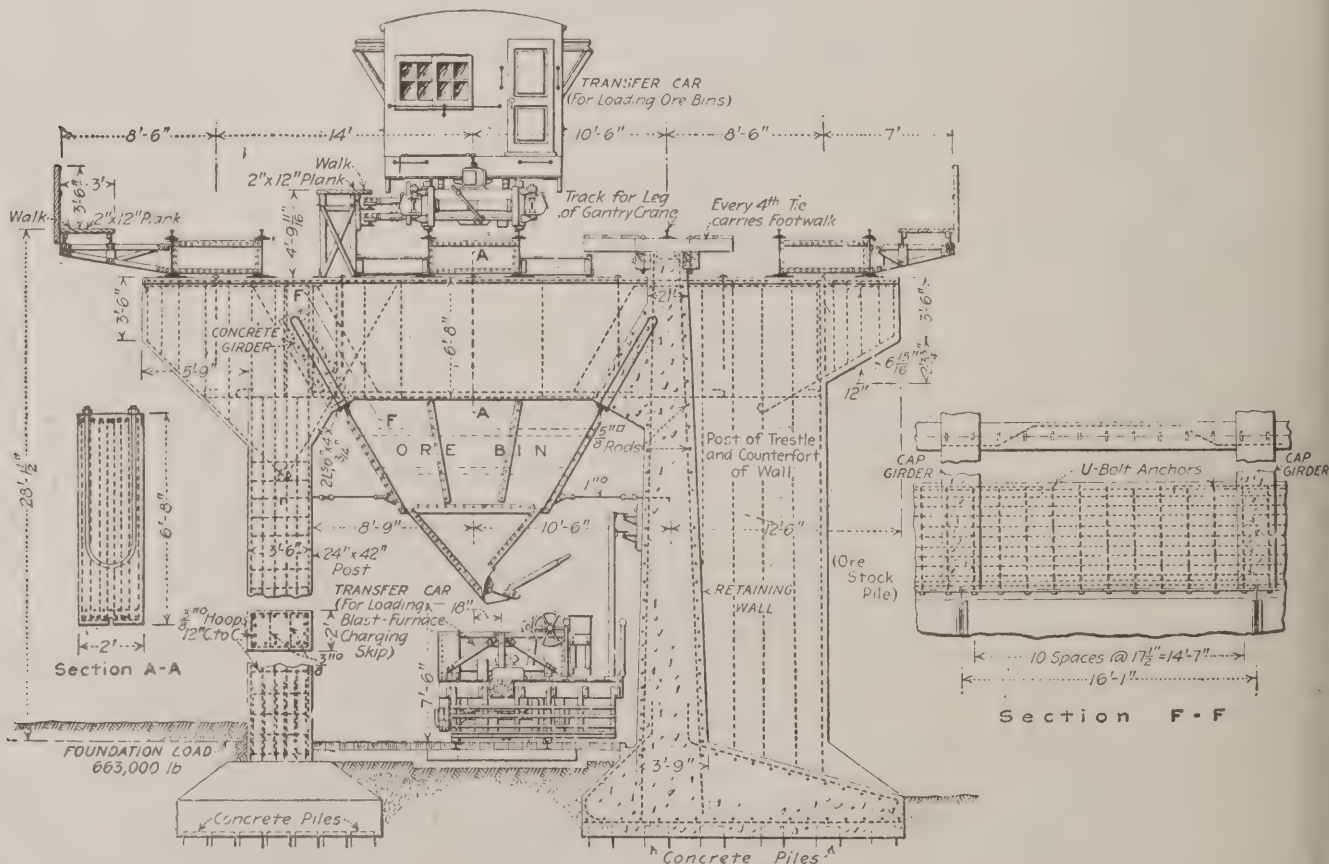
Beneath the caps are steel bins for ore, coke, and coal. The bins have bottom gates for loading electrically operated charging cars which run on a surface track between the trestle posts. This track space is paved with brick. Ore may be dumped into the bins from cars on the middle track. It may also be handled from cars on the outer tracks or from the stock-pile of the grab-bucket of the gantry crane. From the bins it is delivered to the

charging cars, and these in turn dump in a hopper, which feeds the ships on the charging incline of the blast furnace. The bins are suspended from the trestles by inclined U-bolt hangers, which are in the planes or sides of the bins. The sides are stayed by horizontal rods anchored into the trestle post and the retaining wall. The hangers on the outside are embedded in the concrete stringer between the bents, the stringer being inclined so as to form a continuation of the sloping side of the bin. The hangers on the ore bin side are embedded in a stringer formed as part of the wall which carries the crane rail. In the former case the load is carried directly by the stringers. In the latter case it introduces an overturning stress in the trestle and relatively thin wall. This is provided against by a very wide toe on the outer side of the wall.

The capacity of the bin for one bent is 16 ft. long, between centres of bents, 2,636 cu. ft. if filled to the bottom of the track stringers, or 3,122 cu. ft. if the load is heaped up to the top of the stringers. With ore at 150 lb. per cu. ft. the weight load will be 177 or 209 tons respectively.

The track stringers are 30-in. I-beams resting only on base plates on the caps, and those of each track are connected by cross frames. The 8-in. rails are laid upon the top flanges of the I-beams and are secured by bolted rail clips. These separate single-track spans are designed for 100-ton locomotives, and the trestle bents are designed to carry such locomotives running simultaneously on the three tracks. The two outer tracks are mainly for railway cars, from which material is unloaded by the gantry crane, the grab bucket delivering the material required either to the trestle bins or the stock-pile.

The middle track is for bottom-dump cars or an electrically operated transfer car. This latter is loaded by the gantry



REINFORCED CONCRETE TRESTLE IN A BLAST-FURNACE PLANT, YOUNGSTOWN, OHIO.

ore from the stock-pile and discharges to the bins.

he load on the single rail carrying the of the gantry crane is 68,000 lb. for of the four wheels. The outer track gers have cantilever brackets carrying ways. Walks are provided also along ties of the single-rail crane track and the steel structure which carries the l-rail conductors for the middle track. he bents are not symmetrical about the re line. One side has a very wide post short cantilever projection of the cap, at the track is only partly carried on cantilever. The reason for this is that post acts as a counterfort for the ring wall, as well as being a support for trestle deck. On the opposite side the is narrow and the cantilever arm is er, so that almost the entire width of rack is upon the cantilever. This con- tion was used in order to keep the ling in the cross girder or cap at a mum, and also to provide a support he inclined concrete girders which sup- the steel bins.

ie narrower posts have rectangular ngs, while the footings of the wider s are connected by the broad toe of the ning wall. The foundations in both s are concrete piles cast in place. er the broad continuous footings they spaced 36 in. on centres transversely 39 in. longitudinally. Under the ngular footings they are spaced 18 in. centres transversely and 33 in. longitu- ally. The soil is mainly a sand and el fill.

he trestle is about 612 ft. long. Begin- at one end, ten bays are utilised for ing ore bins, as described. Then e five bays for coke bins, and the bents these have no steel reinforcement. e are followed by three bays for ore two for coal bins, and one for a scrap The concrete is a 1:3:5 mix, and all cement is of square twisted bars. structure was designed and built by ur G. McKee and Co., contracting eers, Cleveland, Ohio. r illustrations are from the "Engi- ng News-Record."

## BUILDING AFTER THE WAR.

have received the following state- from the Secretary of the Society of itects:

the Council of the Society of Architects g been invited by the Building Mate- Supply Committee of the Ministry of nstruction to submit its views on cer- questions contained in a reference to mmittee regarding the supply of rials and labour, etc., and to make amendations as to any measure of ol, appointed the President, Mr. E. J. rove, F.R.I.B.A.; the Vice-Presi- , Mr. A. Alban H. Scott, and Mr. Partridge, F.S.I., and the Chairman e Practice Committee, Mr. George s, F.R.I.B.A., to meet the committee e subject in amplification of the views sed in the following memorandum itted by the Council on June 20. morandum embodying the views of ouncil of the Society of Architects on Ministry of Reconstruction's Refer- 3 and 4 to the Building Materials ly Committee.

ference 3. Priority.—In the event of pply of material or labour being in- cient to fulfil the total building nds during the transition period, the cil suggests the following order for

priority and control to be exercised for the shortest possible time.

### Order of Priority Suggested.

1. Work of national importance, such as buildings required to accelerate ship-building or for other urgent public services

2. (a) Necessary buildings for essential industrial purposes.

(b) Housing accommodation of a low rental value.

(c) Reinstatement of premises damaged during the war.

(d) Essential maintenance repairs.

3. Schools, sanatoria, and similar work where urgently needed.

4. General housing accommodation.

5. Buildings of a non-productive kind, but urgently required in the interest of the public.

Note.—All other buildings to be considered on their merits and priority to be granted according to their national importance.

Method.—The Council strongly urges that if priority and control is instituted, the following points should be most carefully considered by the committee:

1. That all schemes for building work whether for Government Departments or for industrial works, cottages, and other classes of buildings, should come before one committee only, and that because certain building work may be carried out for or by a Government Department, such work should not on that account be given preference, but that it should also be decided entirely on the basis of national importance.

It is suggested that no Government Department or local authority should have power to commandeer any building material, but that the purchase of such material should be regulated according to the national importance of the work for which it is required.

2. That a priority committee for post-war building work should be instituted and started immediately, so as to ensure a continuity of policy and form a means whereby prospective building owners or their architects can get into touch and consult a controlling authority on building work after the termination of the war.

It is suggested that the committee should consist of fourteen members, and be constituted as follows:

One member nominated by the Society of Architects.

One member nominated by the R.I.B.A.

One member nominated by the Surveyors' Institution.

One member nominated by the Quantity Surveyors' Association.

One member nominated by the National Federation of Building Trades Employers.

One member nominated by the Institution of Municipal and County Engineers.

One member nominated by the Trade Unions Council.

Six members nominated by the Government.

One member nominated by the Government as Chairman of the Committee.

(2) Administration of Local Committees.

The Council urges the adoption of the principle of decentralisation, and suggests that in forming local committees under a Priority Committee certain existing machinery should be utilised.

It is suggested that these local committees should consist of the existing local areas formed by the Munition Works Board, under a chief surveyor, with the addition of two other members to be nomi-

nated by each of the county councils in each area, one of these two members being a person who is not a member of the county council concerned.

The Council invited the committee to consider the question as to whether the chairman of the local committee thus formed should be ex-officio a member of the priority committee.

### Procedure.

On the point of procedure it is suggested that the local committees should obtain all the necessary information regarding local needs and the available supplies of labour and material, etc. Applications from the various areas should in the first instance be dealt with by the local committees, and the claims should be submitted by them to the main committee, with any recommendations as to the order of priority.

The final settlement of priority claims would rest with the main committee, who would keep the local committee informed of the general national needs and supplies, etc.

It is further suggested that wide publicity should be given to the proposed post-war arrangements, so that building owners contemplating work covered by the priority suggested in items 1, 2, and 3, may become aware of the proposals so that they can prepare their schemes.

In this connection the interests of architects serving with H.M. Forces should be carefully considered, and only schedules for the most urgent buildings should now be prepared, such as those mentioned in the suggested order of priority items 1, 2, and 3.

### Manufacture of Materials.

It is anticipated there will be a considerable shortage of manufactured materials, particularly bricks, and that it will take some considerable time to obtain any adequate stock to meet the demand.

It is suggested that a general investigation of the present condition of the brick-fields should be undertaken with a view of enabling them at the earliest possible date to ensure quick manufacture; similar steps are suggested with regard to cement, lime and plaster works.

The Council has already presented a report to the Department of Scientific and Industrial Research with regard to the greater utilisation of local materials, and it is considered by the Council that the carrying out of its proposals would considerably help to relieve any shortage of essential materials.

After bricks it is anticipated that timber will present the greatest difficulty, and it is suggested that the manufacture of concrete or other materials to take its place should be investigated. It may be possible that some of the present munition works may be utilised for this purpose, and also for the manufacture of certain fittings required for buildings.

It is further suggested that the committee should ascertain from actual manufacturers of various building materials the maximum output of their plant, how that output can be supplemented if necessary, and the condition of such plant in relation to manufacture.

The Council would also suggest that in demobilisation from H.M. Forces the release of architects and of men whose services are necessary in the key industries of the building trades should be expedited.

### Reference 4. Unduly High Prices.

The greater use of local materials as mentioned under Reference 3 will tend to reduce prices. The attention of the com-



mittee is called to the fact that in pre-war days certain railway rates for building materials were extremely excessive, and greater control in this respect is urgently required.

Canals should either be taken out of the hands of the railway companies, and nationalised, or the question of very much greater control as to extensions, improvements, and the reduction in cost of maintenance, working and freightage for water traffic on inland waterways should be seriously taken up.

For instance, by the comparatively slight additional formation of short arms to the present canal systems a very much larger tonnage of building materials would be carried by such waterways, and if the canal banks were improved the use of electric or motor-driven barges would help very considerably both as to cost of freightage and speed.

The Council understands that there is a committee considering what use can be made of the surplus mechanical transport facilities at the termination of hostilities, and it is suggested that a certain number of these vehicles should be reserved for the transport of building materials.

Materials should be ordered for building work much earlier than has been usually done so as to enable greater use to be made of the necessarily slower water traffic.

A further point for consideration is the high prices in certain trades caused by the combination of merchants and also the combination of manufacturers.

Reference has already been made to the question of the greater use of local materials, but, in addition to this, throughout the period of control or priority, it is suggested that the committee should consider and eliminate as far as possible all wasteful transport.

Undoubtedly one of the greatest causes of unduly high prices of building work is the lack of interest the workers have in their work. The Council does not consider that it is a competent body to discuss this matter in detail, but earnestly suggests that consideration be given to some arrangement whereby the actual workers on the building should have directly or indirectly a financial interest in the result of their labours.

It is considered that for certain classes of buildings it would be possible to extend the standardisation of materials.

Control.—If there should be Government control in the form of priority it should apply to the production, transport, and distribution of materials. With regard to the latter point every endeavour should be made to regulate distribution, so that unnecessary transport is eliminated as indicated above.

With regard to the question of purchase, fair maximum prices should be arranged for a certain period after the war, and if possible the arrangements with the manufacturers should be such as not to hinder production, but rather to accelerate it. If the committee could give the building public some guidance as soon as possible as to the anticipated position of priority and control in the country, it would enable manufacturers of building materials to prepare themselves and put them in a better position to judge the probable output required. At the present time there is naturally a good deal of vagueness and uncertainty existing in their minds.

Generally.—The Council of the Society takes a very keen interest in the problem

under consideration, and offers its services to the committee in connection with any schemes put forward for their solution.

By order of the Council,

C. MCARTHUR BUTLER,  
The Secretary of the Society.

## TRADE AND CRAFT.

### *Pencils for Draughtsmen.*

Messrs. the American Lead Pencil Co., 173-175, Lower Clapton Road, London, E.5, have sent us a copy of a booklet, entitled "The Venus Pencil in Mechanical Drafting," by Harry W. Jacobs, Director of Drawing, Public Schools, Buffalo, N.Y. This booklet is as practical as it is elegant, and is very copiously illustrated with examples of the various uses to which the seventeen grades of Venus pencils are put in the draughting office. Mr. Jacobs rightly insists that it is essential for every pencil used in mechanical draughting to be uniform in its degree of hardness or softness throughout, and for the lead to have a smoothness in marking. He has found that in these essentials the Venus pencils can be depended upon to be uniform in every way, and he shows that "there is a perfect Venus pencil for every purpose." Advice on the choice and use of pencils for various kinds of drawings is interspersed with valuable hints on draughtsmen's work; and samples which we have ourselves tested fully substantiate the claim that Venus pencils are "smooth as silk, delightfully even, absolutely true to grading, non-smudging and non-crumbly." The Venus copying pencils we have found equally excellent.

### *English Company to Manufacture Paint in Natal.*

Although the manufacture of paints has proceeded in a comparatively small way in South Africa for some years past, it has remained for an English firm with a great reputation behind it to establish works on a really important scale. The new departure owes its initiation to Mr. Arthur Casson, the chairman and managing director of Casson's Compositions (S.A.), Ltd., which is a subsidiary company of the Casson Compositions Co., Ltd., Hurlingham Works, London, S.W. The new company, which was registered in August, whose productions are well known throughout the trade, and particularly their "Riversea" brand of paint, has a capital of £20,000, and Mr. G. F. Dodd, who is a director, is already on his way to the Cape for the purpose of securing suitable factory premises at or near Durban. As soon as these have been obtained, the necessary plant and machinery, some of which is stated to be of very special construction, will be dispatched to Natal without delay. It is expected that within three or four months after the plant has been installed paint produced at the Durban factory will have made its appearance on the South African market, which should be welcome news to those on the other side who are suffering from the present scarcity of this commodity. Mr. Casson takes the view that the scientific production of paint in the sub-continent ought to be a profitable enterprise, and he has arrived at this conclusion after a personal and prolonged study of local conditions.

The experience gained by Mr. Casson at the great works he controls at Putney, Casson's Wharf, Paddington, and West Drayton will, of course, be placed at the disposal of the South African company. Other extensions are contemplated.

## ASSOCIATED PORTLAND CEMENT MANUFACTURERS (1918) LIMITED.

The report of the directors of this company, submitted to the nineteenth ordinary general meeting held at Winchester House, Old Broad Street, London, E.C.4, on Monday last, September 30, showed the balance brought forward at January 1, 1917, was £183,697 13s. 10d., and the profits, after deductions which amounted to £100,745 for repairs and renewals, and to £555,935 5s. 4d., making together a total of £739,632 19s. 2d., from which have been deducted £323,745 8s. 0d., made up of the following items: Directors' and trustees' fees, £4,275; debenture stock, mortgage, and other interest, £215,518 18s. 10s. 4d.; income-tax adjustment, £25; sack reserve, £20,000. There is therefore a balance of £415,887 10s. 5d., which the directors recommended should be appropriated as follows: To the payment of account of arrears, of one year's dividend on the Preference shares for the year ending June 30, 1916, at the rate of 5½ per cent per annum, amounting to £125,050; to the general reserve and depreciation account, £100,000; total, £225,050, leaving to be carried forward £190,837 18s. 5d.

The directors are pleased to report the profits for the past year show a considerable improvement upon those of the previous period, although manufacturing operations continue extremely difficult owing to war conditions. On April 1 last the Army Council took control of the distribution of all cement, and shortly after this action was followed by the prohibition of exports. It is to be hoped that, subject to the requirements of the Government being satisfied, exports may be resumed at an early date in view of the serious loss which might arise owing to the interruption of the old-established connections of the company in overseas markets. For some time the demand on the company for cement has been in excess of its reduced facilities for production. The income from the company shows a satisfactory improvement compared with the previous year. It is proposed to allocate £100,000 to the general reserve and depreciation account instead of £50,000 as in recent years. In view of the present situation, and the desirability of conserving the company's cash resources, it was believed that the shareholders would fully appreciate the wisdom of making this allocation.

The directors recommended the payment of one year's dividend on the Preference shares, which would clear the arrears due on June 30, 1916.

Provision was made in the profit and loss account as usual for the annual instalment required for the redemption of the Preference stocks, as well as for sundry charges for depreciation and sinking funds. These items amount to £100,000. With the addition of £100,000, which it is recommended should be carried to the general reserve and depreciation account, the total charge for the year for depreciation and sinking will amount to £178,951 10s. 4d.

First Mortgage Debenture stock to the amount of £26,829 was redeemed and called during the year, which brings the total redemption of that stock to £315,830. Of the Second Mortgage Debenture stock £33,732 was redeemed and called during the year, making the total redemption of that stock to the same date £141,969.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

OCTOBER 9, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1240.

## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in saving the efforts of the Government Paper Conservancy to eliminate waste. This they may do in one of two ways—*

*By placing a direct subscription for the Journal with the Publisher, or*

*By placing with a newsagent an order for its regular delivery.*

It would seem to be easier to buy and sell a whole town than a small building plot. It would seem that well within a fortnight the ancient town of Shaftesbury has twice changed hands. Our contributor Mr. C. H. B. Quennell finds in this transaction a text for one of his delightful articles on the things of the matter. He seems to think that while this transaction was perfectly legitimate, it ought not to be imitable. Presumably he has a sort of sentimental objection, a kind of moral repugnance, to the idea of a whole township being bought up. To him it is as if 500 inhabitants had been thrown into the bargain. He seems to remind him that these people are free to go and come as they choose, with never a man to say them nay. He would contend that their freedom is in empty form, since wherever they may go within the landlord-ridden kingdom they will be subject to the same exigency of being bought and sold. This is an exaggeration of the case may serve to bring a bold relief an aspect of the land laws that is too long disregarded—the moral and personal element, distinguished from that which is crudely material, that, if not exactly impersonal, has in it nothing more spiritual than a strong sense of the "sacredness of property."

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In considering human affairs of any kind, it is always difficult to discount sentiment; and it would not be difficult to show that it is through failure to allow for this vital element that the laws relating to landed property are giving so much trouble. A house, a plot, an estate, a whole town even, may be bought and sold by the heads of the occupants, and no material change done, but, nevertheless, the occupants will be very sore about it, supposing they have not been consulted in a transaction in which they are intimately concerned. It gives them an uncomfortable feeling that they are treated as chattels, or, as Mr. Quennell says, it, as so many head of livestock. As to their freedom to go elsewhere, that, after all, is by no means absolute in every instance. Many of them are bound by covenant to the landlord, his "heirs, successors, and assigns," and are therefore even less mobile than Mr. Quennell has assumed. At the same time, this protection to the landlord's successors protects them from capricious eviction or rent-raising. It may be supposed, therefore, that the chief injury done by wholesale purchase is of the nature of moral change. There is, of course, in the instance of Shaftesbury, the little matter of the £5,000 profit on the deal. Whence comes the profit? What value is there in return for it? If the original vendor had had the justness of the middleman, he might have had £5,000 for himself, and the tenants of the town

would have escaped the chagrin that on reflection they must feel at parting with £5,000 for which they get—what?—something that may be real, but is certainly intangible.

\* \* \* \* \*

This instance of the purchase and resale of a town is altogether a curious study in psychology. It shows at once the utility and the expensiveness of the middleman. If Lord Stalbridge had offered to sell the town to its inhabitants at a fair, or at less than a fair price, the probability is that there would have been no deal. Why? Because of the absence of stimulus. A home offer would have been received languidly. Nobody would have been really awake to its advantages, however great they may have been. If the town had been offered as a gift, the inhabitants would have sniffed at it, suspecting that the owner had some strong reason for wishing to be rid of it—was merely anxious to transfer a burden. Something for nothing is not in the order of nature, defies the immutable laws of exchange and barter, is radically immoral. It may be imagined, too, that the owner did not care to trade with his tenants. He did not want to make a profit out of them. Sales are in a different category from rents. In no other way can one account for the curious spectacle of A, who is in close touch with B, selling to C on condition that C will offer the property to B. It is a roundabout method; but brokerage, whether of money or of marriage, is an ancient and honourable institution, and demands exceptional talents for its successful pursuance. All the same, it is apt to take too heavy a toll on the transactions it facilitates, and the plain fact is that the biggest burden on the land system in this country is that which is imposed by the various denominations of middlemen. They should not be execrated. Generally speaking, they work fairly hard for their money, although they produce nothing but documents which nobody but themselves can pretend to understand. They save his landlordship a vast amount of trouble and vexation in collecting rents and in doing other more or less disagreeable work, and their commission, nominally paid by the landlord, comes ultimately out of the pocket of the tenant, and is in effect an imposition on the land. Tenants, therefore, have obviously less reason than landlords to feel gratitude towards the middleman; who, indeed, develops extraordinary cleverness in the gentle art of rent-raising: perhaps because the more he can raise the larger will be his commission. But with regard to the Shaftesbury transaction, we read that the purchase of the town has been settled to the satisfaction of the tenants and townspeople: "it has now been sold outright to the tenants." So all's well that ends well; but where did that extra five thousand pounds come from, and why should an outsider step in and walk off with it? "Tis a mad world, my masters."

\* \* \* \* \*

It seems that the construction of concrete ships is quite simple. "Any one," writes the shipping expert of the "Daily Telegraph," "who has watched a cook make an apple pudding can understand the process. In place of the basin there is a wooden mould; instead of paste, concrete, reinforced with steel, is placed, and there you have the ship. Of course, the system is much more complicated than that contrast might suggest, but it conveys some idea of how a concrete ship is built." You see, the writer, though sanguine, is not over-confident about the



felicity of his illustration. This diffidence, though charming, is superfluous to the instance. Cookery and concrete have been very much mixed up in the comic periodicals; and puddings and pastry having been so often likened to concrete, it is only fair to return the compliment. All the same, it has remained for a shipping expert to write, in this pudding-basin similitude, the most desolating balderdash it has ever been our misfortune to read about concrete. It is a sample—rather belated, we hope—of the old pernicious and we would fain believe obsolescent habit of journalists and technologists had of writing down to the meanest capacity. It is time that we were through with this childishness of avoiding technical terms as if they were deadly pestilential. To such excess was it carried that one lived in trembling expectancy of some series of "Anti-technical Manuals for the Mentally Deficient." That was before the war; and playing to the gallery is no longer tolerated. Hundreds of thousands of men and women have now acquired sufficient steadiness of nerve to stand or sit quite firm when technical expressions are flying about; for it has been realised that the deadliness of accurate terminology had been much exaggerated, and that daring spirits even get to enjoy the hazard. No emotion is so swiftly infectious as that of fear, and the dread of intellectual exertion, fostered by the popular Press, had spread like wildfire among the population, who, however, have become tired of being fed on pap with a spoon, and realise that for their mental health it were better that the periodicals gave them something tougher to chew upon, so that they may take an intelligent interest in the arts and manufactures, and so that they may escape that steadily progressive softening of the brain and of the moral fibre that is consequent on pap-feeding.

Mr. Arthur Serena's princely gift of £20,000 to be divided between the universities of Oxford and Cambridge for the foundation in each of a Chair of Italian and a Department of Italian Studies should be particularly gratifying to architects, who of all men are best aware of the debt we owe to Italy, and would fain increase it. If our language and literature are saturated with the Italian spirit, not less so is our architecture, albeit we responded so sluggishly to Renaissance influence that while our literature from Chaucer onwards was fed and refreshed from Italian springs, it was not until the days of Inigo Jones and Wren that the genius of Italy in architecture was clearly recognised. It is rather remarkable that a Chair in Italian was not established centuries ago in universities that owe so much to Italian example in art, literature, and science, in the foundation and polity of seats of learning, in the classical culture that is racy of its soil. Looking to the abundance and nobility of art and literature in Italy, and to the supreme beauty of its language, it is simply shocking to reflect that, during the Victorian era, Italy was almost entirely neglected by us for so crudely barbaric a country as Germany. And the language of Italy is sheer music, while the language of Germany is most charitably left undescribed. For us, however, the main point is that you cannot establish Chairs in Italian language and literature without simultaneously promoting the study of the arts and sciences, and in this sense Mr. Arthur Serena's gift extends, virtually though not statedly, to architecture.

Stonehenge as the property of the nation will be studied more freely than it has been while under private ownership, and probably some at least of its many mysteries will be solved. It will then become so much less interesting that, while piqued to discover its secrets, one rather hopes that they will never be fully revealed. Stonehenge baffling conjecture is

intensely alluring, but Stonehenge a solved enigma would be hardly worth a visit. Although its stones "neither rich nor rare," so long as we can wonder how the dickens they got there," they will be examined with a curiosity that would dwindle to nothing from the moment that the fact was ascertained. What means the engineers of about 1800 B.C. conveyed to Salisbury Plain from an unascertained distance stones weighing 30 tons, and then managed to raise them to a height of 30 ft. above the ground is perhaps more than we shall ever know; and to confess the truth, it is a problem upon which it is better to lay too much stress. Probably its solution will merely satisfy a more or less idle form of curiosity. As our American friends would say, ascertainment would "cut no ice," but it would rob Stonehenge of the mystery which is its chief charm.

Our observations, in last week's issue, on the current labour troubles would have included, space allowed, some further reflections on the parlous condition to which trade unions have been brought by their unruly elements. If these Syndicalists were allowed to continue their dishonourable attempts to nullify with impunity solemn agreements and substitute capricious and irresponsible mob rule for constitutional negotiation and covenant, not only will trade unions be brought to naught, but the same will quickly spread in other directions. J. H. Thomas, the railwaymen's secretary, said this very clearly. He felt that he had to resign, he told an interviewer, because "I have," he said, "always demanded a code of honour from the other side, but I now feel that I am not in a position to guarantee a similar code of honour from the employers and in the letter in which he tendered his resignation (which the Executive Committee declined to accept) he wrote that no other course was open to "one who believes in constitutional government in trade unionism, who believes that the same standard of honour is demanded from the other side is the least we are prepared to give ourselves. Moreover," he continued, "whoever is responsible for the recent strike—a strike as wicked as it was dangerous—are people whose policy and methods must not only be challenged, but must be fought: otherwise we shall very soon reach a stage in this country similar to that through which Russia is now passing." This is a reasonable apprehension. To refuse to be bound by the accepted code of honour is virtually to declare a state of anarchy. What that means we know more from the records than from actual experience, and, since Britons are, as a rule, law-abiding and peace-loving, this immunity is likely to continue; nevertheless, playing with wildness is a dangerous game.

In the building trade these disruptive elements have from time to time wrought incalculable mischief, and an effectual way of dealing with them has yet to be found; unless, indeed, the Government, with the help of the employers' and workers' organisations, have discovered some effectual method of suppressing this dangerous nuisance of unauthorised striking. They have, at all events, undertaken to inquire more systematically into the questions at issue in a labour dispute that may arise; and in any case in which capricious striking is seen to threaten interference with the prosecution of the war, the same firmness of attitude that put a stop to the railway rebellion will doubtless be adopted towards any other section of labour showing similar unwisdom. In plain English, the Government will stand no nonsense that threatens to delay or to jeopardise our success in the war, or to imperil the lives or to vex the spirits of the men who are fighting for us. We are submitting cheerfully to the inconveniences of what is virtually military rule, and labour cannot be excepted



## HERE AND THERE.

in evening paper of October 2, a large heading ran: "St. Pancras fifty years old." I had not thought him to have reached that age, the legend; that, at the time of his martyrdom, in 304, under Dioclesian, the noble Roman youth but fourteen years old, and hence was adopted as patron saint of children. Many churches are dedicated to him, including the first heathen temple created for Christian worship in England by St. Augustine. But a newspaper heading is often ambiguous. One can never be quite sure of its meaning until the text beneath it supplies the clue. In the present instance doubt was resolved by the first sentence in the article: "St. Pancras Station was built fifty years ago to-day." Even more particularly the succeeding statement that "the building was not completed until three or four years later, but at 5 a.m. on October 2, 1868, the first passenger left the station, and the first Scottish express arrived at nine o'clock." It is rather startlingly reminded that an essential institution like St. Pancras Station is so young—that there are men, and they not necessarily so very much beyond any age, who may have been carried to St. Pancras Station to see the first train leave it at 5 a.m., and who may have been old enough, even at that early hour, to remember the slums that had been cleared away to make room for the station.

The district that lends its name to the station there are no churches dedicated to St. Pancras. Old St. Pancras Church is of unknown date and authorship. It may have been in existence from about the middle of the fourteenth century; and there are those who have the hardihood to affirm that it occupies the site of the first Christian church ever built; but antiquarians are a romantic set of fictionists. You stand before one of them within some venerable relic. Observers are rapt far-off, vista-of-the-ages expression, you see him to be working out with mathematical accuracy some determination of approximate date; he is not deceived—he is more likely to be letting his fancy and imagination run riot in the concoction of a wholly baseless tarradiddle about a Roman temple, a Saxon settlement, a cell of the Abbey of Mount Carmel, or some such delusion—harmless, no doubt; and would possibly be entertaining if it were as ancient as the ruins that inspired it, and if the speaker's style of telling it were less deadly dull. I but respectfully refuse to believe that the present church at St. Pancras disputed with St. John's at Rome the honour of being "the head and centre of all Christian churches."

The interest the old church had as a structure is shown by the repairs and enlargements of 1847-48, when the square tower was obliterated, and "a spire was added on the south side." By the way, what is the question? I see that the question is being discussed in the degree of subacid sarcasm proper to the correspondence columns of "The Literary Supplement." It is noticeable that in the academical contests the more paltry the issue at stake is the quarrel about it: and always at the crucial point in the row, at the very moment when one is craning one's neck to get a good view of the knock-out, the editor intervenes with—"This correspondence must now close," or heartless words to the same effect. Most unsportsmanlike. But "The Literary Supplement" discussion has not yet been closed, and I am in hope of seeing the contestants "mixing

it" in the good old English way. It was alleged that Macaulay had fallen "into the common error of identifying a steeple with a spire." Then the Rev. Arthur S. B. Freer avers that "Lord Macaulay knew the English language better than his critics, who, had they referred to Skeat's Etymological Dictionary, would have discovered that a 'steeple, A.S. *stȝpel*,' is 'a lofty tower; so called from its height.' When Macaulay wrote of the terror with which the inhabitants of Market Drayton saw Clive seated on a stone spout, near the summit of the lofty steeple, he was not foolish enough to picture a stone spout projecting from the summit of a spire; nor far-sighted enough to imagine his future critics confounding a steeple with a spire!" That is "writ sarcastic." A later writer fears that Macaulay really does identify a steeple with a spire, because in his account of the Monmouth rebellion he writes: "The steeple of the parish church of Bridgewater is said to be the loftiest in Somersetshire, and commands a wide view over the surrounding country. Monmouth, accompanied by some of his officers, went up to the top of the square tower from which the spire ascends, and observed through a telescope the position of the enemy." This gentleman seems to me to be cutting it very fine. He should have supplied a diagram to show how his extract proves Macaulay to have confounded a steeple with a spire. S. T. Coleridge does not make the distinction any clearer when he writes in "The Friend": "An instinctive taste teaches men to build their churches in flat countries with spire steeples, which, as they cannot be referred to any other object, point as with silent finger to the sky and stars." To me the difference between a spire steeple and a steeple spire is rather more confusing than the old attempt to discriminate between "a big little 'un" and "a little big 'un." I fear that we are travelling in the direction of "metaphysics," although my ticket is not available beyond St. Pancras.

New St. Pancras—not so very new neither, since it was consecrated in 1822—is acclaimed as another sort of firstling, as "the first place of Christian worship erected in Great Britain in the strict Grecian style." William Inwood, its architect, was therefore a pioneer of the classic revival in church building. Fergusson discusses this matter very jauntily in his "History of the Modern Styles," and he criticises Inwood's St. Pancras rather severely. "Putting on one side," he says, "for the present all question as to the propriety of adopting classical details for Christian purposes, it still was an unpardonable mistake to arrange in a formal monumental building of the dimensions of this church the elements of a small, elegant, and playful design like the Temple of Minerva Polias at Athens, and a still greater one to select so delicate an order for employment in our climate, to which the Roman orders were at least more appropriate. All these causes led to St. Pancras new church being acknowledged a failure; and as it cost nearly £70,000, it contributed more than any other circumstance to hasten the reaction towards the Gothic style, which was then becoming fashionable." We have, then, to thank Inwood's Grecian church for Sir Gilbert Scott's Gothic railway station; or, rather, as I read Fergusson's rather incoherent reference to some question of accounts, it was the cost of the church that led to the Gothic reaction! But Fergusson's English is often rather Gothic—that is to say, a little muddled in the exuberant details.

DIOGENES.



## THE LESSON OF SHAFTESBURY.

BY C. H. B. QUENNEL.

NEWSPAPERS of to-day can be nearly as tantalising as the manuscripts of yesterday, in that they draw the curtains aside, and give you glimpses of life, and let the same fall together before one has got more than a notion of the plot. If the former only seem to know how to make a start, the fault of the latter is that they generally come to a premature end. At a twelfth-century reporter who did this Carlyle railed in a wonderful way when he wrote. "Irremediable; the miraculous hand, that held all this theatric-machinery, suddenly quits hold; impenetrable Time-Curtains rush down; in the mind's eye all is again dark, void; with loud-dinning in the mind's ear, our real-phantasmagory of St. Edmundsbury plunges into the bosom of the twelfth century again, and all is over." But then Jocelin of Brake-londe would have gone on, because pages of blank paper were left, only something must have prevented him from so doing; and what that something was we shall never know. Our present trouble is, that we live in a time quite as interesting as the twelfth century, and for centuries to come generations of small boys will learn of the doings of our time; these same newspapers will be browsed through by the historian anxious for any indication of our realisation of the significance of things, and he, or she, will find just what we do—occasional glimpses only, wedged in with that dull garbage we understand to be news. For example, during nearly a whole week we have had to endure the imperishable record of the doings of a young man with an expensive taste in card-playing.

It is perhaps unfair to dub Jocelin a reporter. He went a step beyond this, and was an artist with his

pen, seeing the life of his time as a whole and sustaining our interest all the time that he goes on. Modern chroniclers annoy because they only seem to know how to make a start.

The ancient town of Shaftesbury may have had a twelfth-century Jocelin of its own, who would have been keenly interested in its fate to-day.

Here is a cutting from the "Daily Telegraph" of September 4:—

"At Gillingham, Dorset, yesterday, at the commencement of the sale of Lord Stalbridge's estates, Messrs. Knight, Frank, and Rutley announced that the greater part of the town of Shaftesbury had been sold privately to Mr. James White. In all 122 lots were offered, and only four lots were unsold. The first day's sale realised £240,000. The market value of Stalbridge will be put up during the week, the extent of the lands to be submitted being 8,134 acres."

"The auctioneers stated that Lord Stalbridge made it a condition of the contract for the sale of Shaftesbury that the town was first to be offered to the Mayor and Corporation for a week at a reasonable price, and if they were unable to purchase, then to the tenants. Failing a sale in this way, it was stipulated that before any further action was taken the individual occupier was to have the offer for one month to purchase his house or cottage at a fair and reasonable price. This announcement was received with loud applause."

"Mr. James White, the purchaser, was born in Rochdale, and is about forty years of age. He has participated in some large real estate deals, and has negotiated the sale of the Covent Garden property."



HIGH STREET, SHAFTESBURY.

Photo kindly lent by Mr. John K. Rutler.



was also interested in the recent flotation of the Pop Company. A well-known sportsman, Mr. White has been a racehorse owner, and was mainly responsible for the weekly boxing entertainment for American soldiers at the National Sporting Club. He introduced Carpentier, the famous French boxer, into England. Mr. White is also largely interested in theatrical enterprises.

Shaftesbury is a town of about 2,500 inhabitants normal times, beautifully situated on a chalk spur which rises out of the rich Vale of Blackmore. From the Hill is a wonderful view over three pastoral parishes. It is the centre of an important agricultural district, an old-world place of narrow and irregular but well-built streets. Centuries ago the town clustered about the abbey, which possessed such wide lands that it was one of the richest religious houses in the kingdom, and its fame and its sacred relics attracted pilgrims from all parts of Europe. It was completely spoiled at the Reformation, and so handled that not a stone was left above ground. With the loss of its life Shaftesbury sank into a place of small significance. To-day it serves a wide area, the shops doing a busy trade, and is much resorted to by visitors for its unrivalled scenery and invigorating upland air. No towns in England possess such a long record, or such an authentic history of Shaftesbury going back to Saxons and Danes, but it has no surviving antiquities of note. Excavations half a century ago disclosed some portions of the foundations of the abbey church."

The first point of interest in this report is the benevolent intention of Lord Stalbridge that first the Mayor and Corporation, and then the tenants, are to have the option of purchase. But it is vicarious benevolence, and somebody else is to determine what the fair and reasonable price. Evidently Feudalism has had its day. The inhabitants of Shaftesbury have paid feu for all the centuries to Lord Stalbridge and his forerunners, and they are entitled to consideration, which it is evident they are to receive: also for a consideration.

The report then gives quite an interesting little biographical sketch of Mr. James White, who, it appears, is interested in real estate, rubber tyres, races, horses, boxers and boxing, and theatrical enterprises, and is doing war work in that he is mainly responsible for the weekly boxing entertainment for American soldiers. He is of admirable versatility and industry and of high courage. Then we have quite a nice little historical sketch of the town, but we are not told for what purpose Mr. White bought the town. The "Daily Telegraph," having stimulated our interest, with drops Shaftesbury, and reverts to real news. Then, on September 5, the "Daily Chronicle" takes up the tale, and here is what they have to say on the subject:—

"'Buying a town' sounded such a large financial transaction that Shaftesbury (Dorset) has become a big item of interest.

"Lord Stalbridge had decided to sell, and Mr. James White, of London, decided to buy. Mr. White yesterday told a representative of the 'Daily Chronicle' why he had bought it, and all about it.

"'I saw a bill, with the heading, 'A Town for Sale,' and when I had read all about Shaftesbury I offered Lord Stalbridge's agent £75,000 for it. The deal was almost completed when he came to say that the Mayor and Corporation, and a lot of ecclesiastical authorities and others, had been to see him about it, and Lord Stalbridge would like them to have the chance of securing the property. So I have given them an option of purchase, at £80,000, for seven days, and every tenant has an option to purchase the property he is in possession of as well.

"Other gentlemen have been mentioned publicly as being associated with me, but all that it amounts to is

that I offered two friends a third share each in the deal, and they accepted. It is one of the prettiest villages I have seen. To call it a town seems almost ridiculous. Yet I suppose one must, for it has its own Mayor and Corporation. It will be a very interesting development if they are able to take over the property, for I should think it will be the first instance—in modern times, at any rate—of the corporation owning their own town."

This seems to show that Mr. White bought Shaftesbury as a speculation, and, as things are now, this was a perfectly legitimate thing to do. The profit he anticipated was £5,000 for a seven days' option, and some mathematician may care to work out the percentage which this represents on the capital involved. The report is of interest for the illustration it affords of the casual way in which the fate of these 2,500 people in Dorset was settled.

On September 10 the "Evening Standard" contained the following notice:—

"The purchase of the town of Shaftesbury has been settled to the satisfaction of the tenants and townspeople. It has now been sold outright to the tenants."

But again the newspaper only tickles one's curiosity. One would like to know whether Shaftesbury has been floated as a company. Was there any underwriting? Did they bring themselves out as a Public Utility Company? In fact, we all want to know very badly how the tenants and townspeople have been satisfied, and what it has cost them. The real fate of Shaftesbury is of vital interest, and the newspapers, as usual, ring down the curtain without showing us the conclusion of the act.

Now for that other side, which would have alarmed Jocelin of Brakelonde. His chronicle was written between 1182 and 1202, and during the twelfth century it would have been quite impossible to sell a town, even with an option attached, or dispossess any of its inhabitants in time of peace. The villein was tied to the land, and so was his lord; they both had to render service, and enjoyed security of tenure. What it all amounts to is this, that the 2,500 inhabitants were sold at £30 per head, counting men, women, and children, plus the £5,000 consideration. Such a statement may be criticised as wildly beside the point and we may be told that England is a free country. Let us see what this amounts to. In the first case Shaftesbury as a town, its land and fields, are not productive without labour. Nobody would have given twopence for the place, except for the fact that circumstance has yoked 2,500 people to it. It is their labour which will produce the wealth that will pay the interest. Our critic may say, Nonsense! they are quite free to leave it. The Mayor and Corporation may pack up their traps and go; the professional man may leave the practice he has built up, the shopkeeper his shop, the citizen and the soldier's wife and children their homes. But they cannot do this—are not really free to do so; and if they were, it might be only the case of the fire instead of the frying-pan.

But neither Mr. White nor his associates in the deal have anything to reproach themselves with, and the only regret that nine-tenths of the population will have is that they lack either the imagination, or the means, or both, to follow suit. The remaining one-tenth will be pained to think that it should be possible, and perfectly legitimate business, to buy towns at the rate of £30 per head of their inhabitants, or at any other price, and will use every ounce of their endeavour to convince their fellows that such a state of affairs must be altered.

And that eventually it must be, surely goes without saying, because the problem before the country is not to deal with its people as livestock, but to stimulate all their powers of production. To do this we must increase their security of tenure.



## CORRESPONDENCE.

*Patent Floorings.*

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—I was much interested in reading the very valuable paper on the above subject by Mr. W. E. H. Burton, which appeared in your issue of September 25, more particularly the statement on page 147, *re* floors, which is as follows:—

"What certainly is required is a material with which to finish such a floor, which shall at the same time be cheap, warm to the feet, resilient, and durable; with such a finish carpets might largely be dispensed with and improved sanitary conditions secured."

It is improbable that the author is unacquainted with so-called patent floorings, which, if properly manufactured and laid on suitable foundations, and under suitable conditions correspond in every respect to the qualities he specifies. It has occurred to me that Mr. Burton, like others, has perhaps had some unfortunate experience with floors of this description, and hesitates to recommend them. I venture, therefore, to offer the following notes and suggestions for the consideration of your readers:—

These floors consist of an oxychloride cement mixed with other ingredients. The original floors, invented, I believe, by a French engineer, were mixed with sawdust; under proper conditions the result is quite satisfactory, and the material can easily be formed into coved skirting around the walls, making a solid, hygienic, and jointless floor, which is cleansed and polished in the same way as wooden floors or linoleum.

Much trouble has been experienced in the past with floors of this description, due chiefly to ignorance of their peculiar properties and the conditions under which they are successful—for which manufacturers, architects, builders, and workmen are alike to blame.

Up to the time war broke out the laying of these floors was chiefly in the hands of foreigners, although one or two British firms were struggling to make headway with them, and were hoping for great things during and after the war. They were, however, disappointed, owing to short-sighted policy of the Government, who, in 1917, prohibited the use of one of the chief constituents, *i.e.*, magnesite, for this purpose. This material is imported chiefly from Greece and India, and had proper arrangements been made the India supplies could have been assured, and sufficient material obtained for all purposes—including the small quantity required in connection with the manufacture of steel—and an important industry might have been encouraged and established to the advantage of England and India.

Many efforts have been made to find a substitute, and hundreds of experiments have been made, but the results are all lacking in those peculiar qualities which place this flooring in a class by itself.

The use of sawdust in these floors is unnecessary, and, in fact, objectionable. Other materials, including asbestos, are preferable. One flooring made with asbestos is known as "Decolite"; it is very tough, cuts like hard wood, and will take a screw-thread. It is sufficiently hard-wearing to withstand the traffic in railway milk vans, and its non-conductivity is about the same as pitch-pine. Modification in manufacture can increase the non-conductivity of these floors, but usually at the cost of their wearing and setting qualities. Like all other materials, this class of floor has its limitations, and must be properly used. It will not set in continually damp places, and if laid on damp concrete, or flooded with water before it is set, will remain soft for weeks. When once set it is practically waterproof, especially if polished, when it will also withstand the action of dilute acids, and is therefore most useful in chemical laboratories, being also fire-resisting. A good key is necessary, and also a hard,

clean, and dry foundation, such as wood, cement concrete, stone; lack of proper key or friable foundations, such as poor concrete or soft floating, can bulging, due to expansion when setting. This is slight, only about 0.01 per cent. in properly made composition without sawdust, just sufficient to prevent cracking. Sawdust may cause considerable expansion. Care must also be taken in the proper and limited use of one of the salts necessary for the manufacture of floors. Cases have been known of damage to pipes, etc., caused by indiscriminate use by ignorant workmen; no possible harm can be done if ordinary care is exercised, the floors being quite neutral when properly laid.

I submit that it would be of great benefit to the general public if the Government could relax the present restrictions and help to establish a British industry which would be of great value at the present time and after the war.

S. H. H. BARRATT, A.M.I.C.E.

Glasgow.

## THE PLATES.

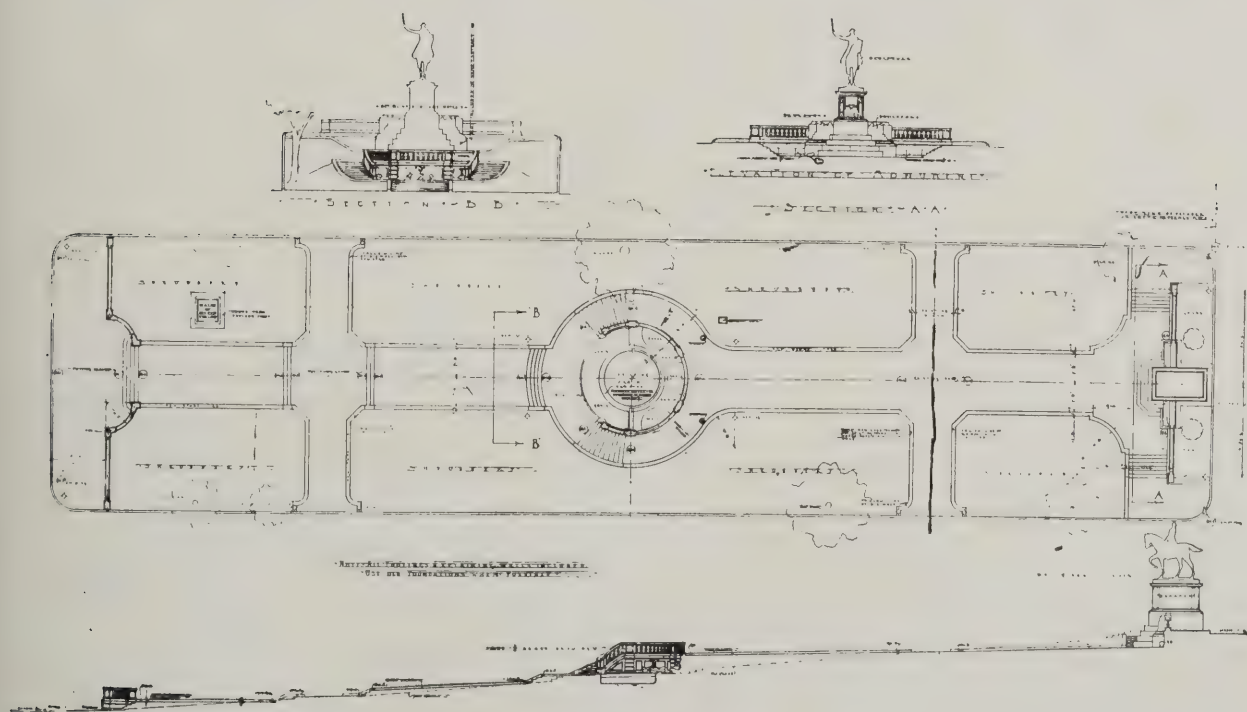
*The Lafayette Monument, Baltimore.*

BALTIMORE was not called "The Monument City" because of its numerous monuments, but because the Washington Monument, a marble shaft rising 164 ft. from Mount Vernon Square, dominated the entire city.

When this square was originally designed by Robert Mills, says our contemporary the "American Architect," from which the illustrations of the Lafayette Monument in this issue are reproduced, it presented all the attributes of good planning, and the accompanying accessories to make a well-balanced



PERSPECTIVE VIEW OF THE LAFAYETTE MONUMENT, BALTIMORE, WITH THE WASHINGTON MONUMENT BEHIND. CARRÈRE AND HASTINGS, ARCHITECTS.

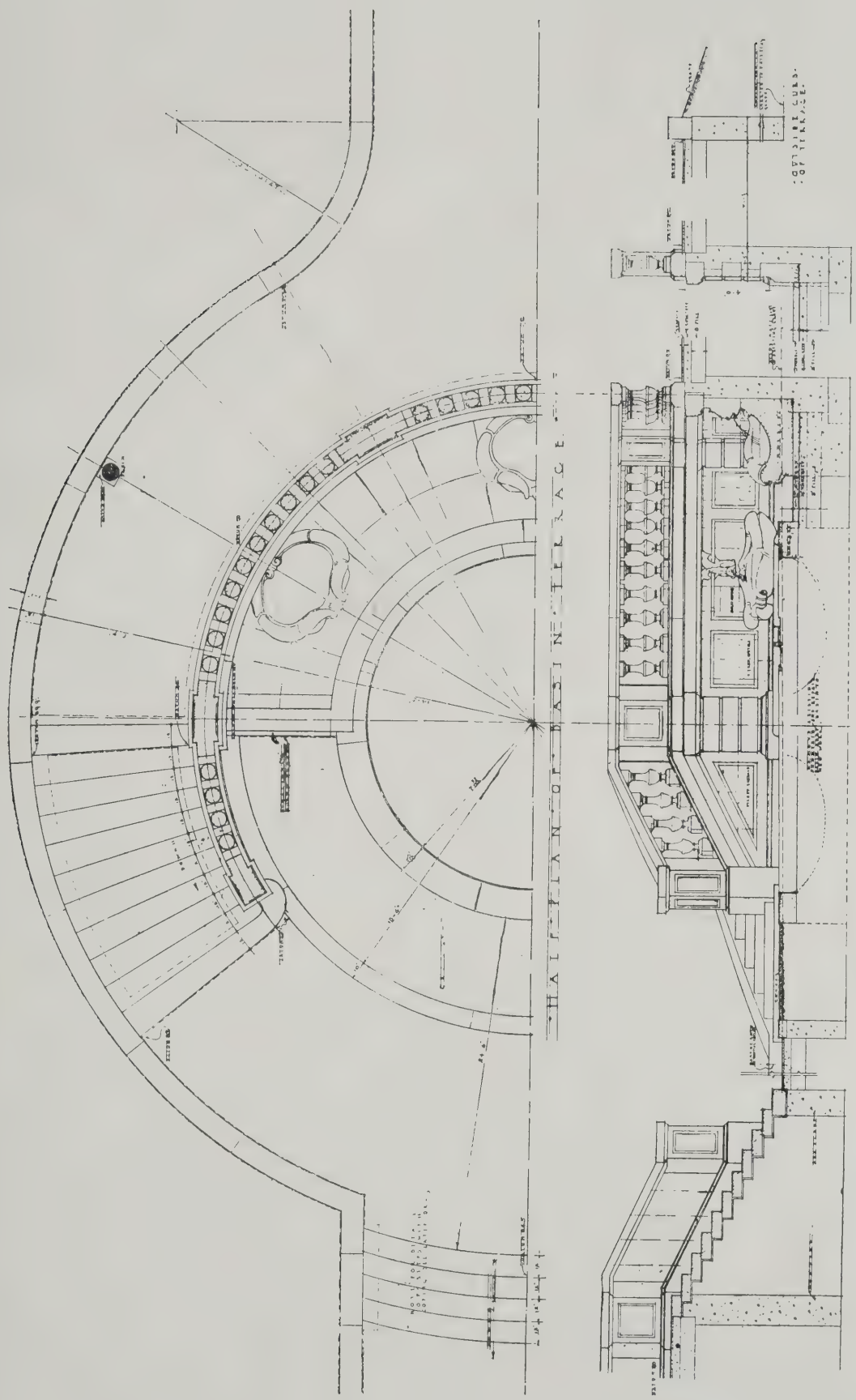


MONUMENTS. XL.—THE LAFAYETTE MONUMENT, BALTIMORE, U S.A.

CARRÈRE AND HASTINGS, ARCHITECTS.



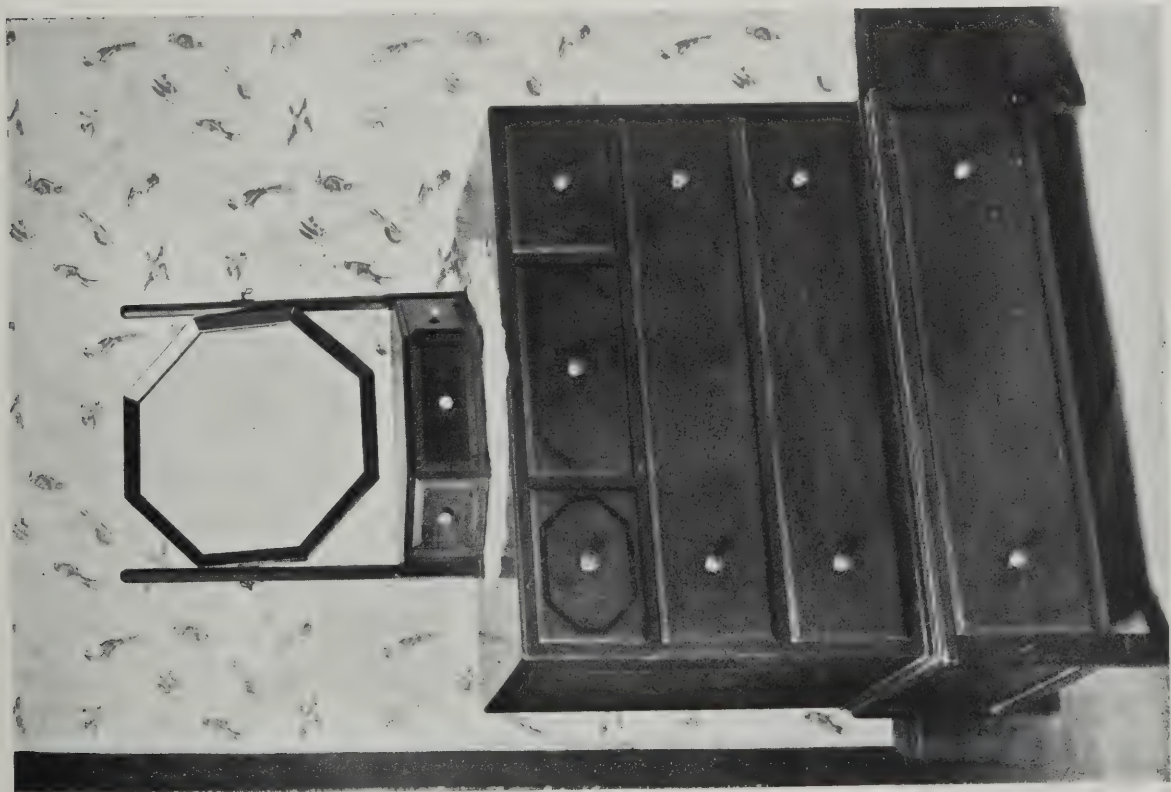
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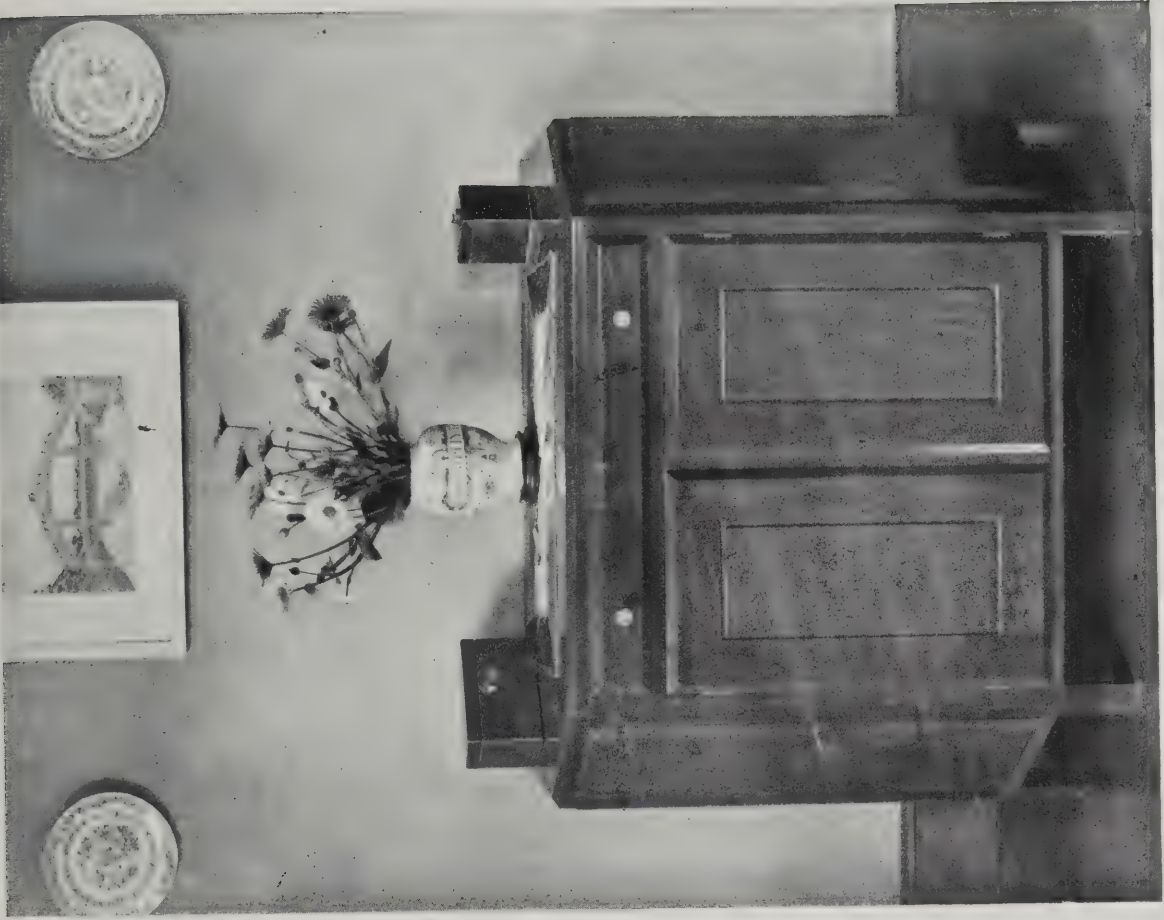
MONUMENTS. XLI.—THE LAFAYETTE MONUMENT, BALTIMORE, U.S.A.: PLAN AND SECTION OF CENTRAL PORTION.  
CARRÈRE AND HASTINGS, ARCHITECTS.



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Dressing Chest.



Small Cabinet.

FURNITURE. IX.—TWO MODERN EXAMPLES. DESIGNED BY W. F. CRITTALL.



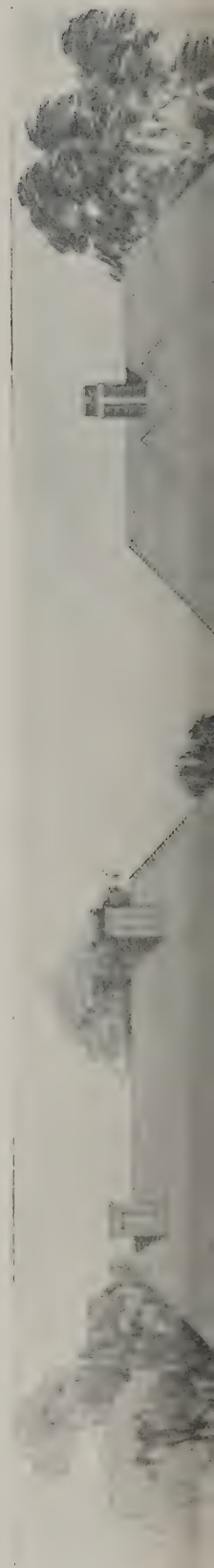
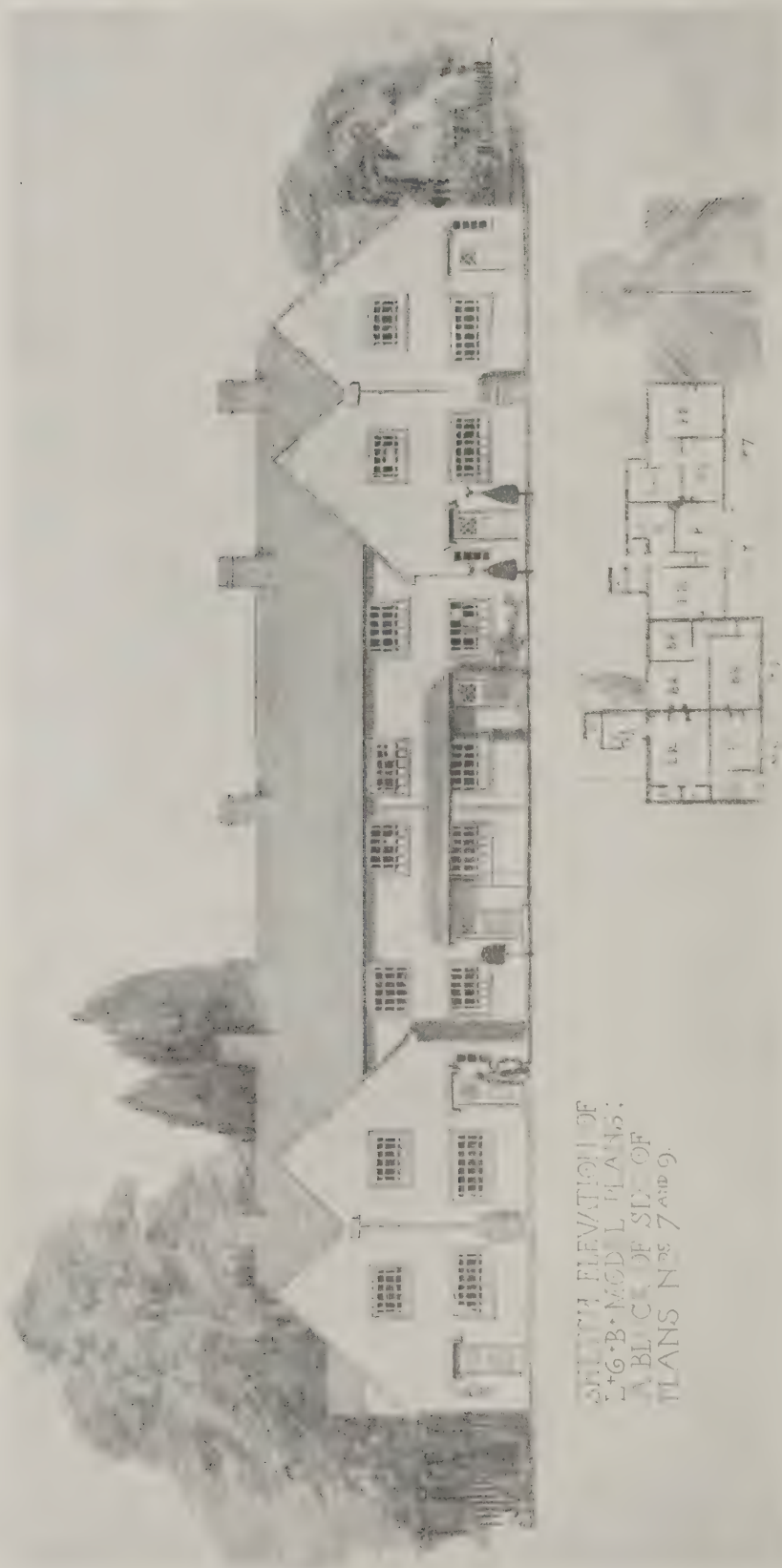
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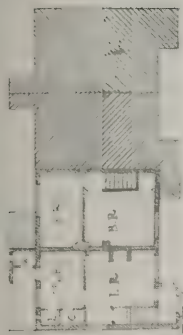
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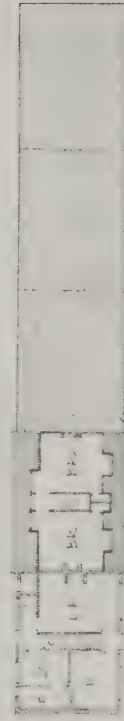
SKETCH ELEVATION OF  
L.G.B MODEL PLANS  
A BLOCK OF FOUR OF  
PLAN N<sup>o</sup> 12



A PAIR OF  
PLAN N<sup>o</sup> 10



SKETCH ELEVATION OF  
L.G.B MODEL PLANS  
A BLOCK OF FIVE OF  
PLAN N<sup>o</sup> 8



CURRENT ARCHITECTURE (SERIES V.). XLIX.—SOME DESIGNS FOR ELEVATIONS TO FIT THE MODEL PLANS OF THE  
LOCAL GOVERNMENT BOARD.  
BY A WELL-KNOWN ARCHITECT.



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istic ensemble were representative of the period of inception. But we have made much progress in these matters since 1820, and are now able to study with a better artistic perception the shortcomings of a plan and design that, while regarded with favour a century ago, are not, in the light of our civic progress, fitting accompaniment to the modern type of buildings that surround them.

The present accessories in Mount Vernon Square consist of the work of even a later date, some time in the '70's, being principally of polished granite, with which pretended ornamentation of poorly designed cast-iron. But among all this nondescript material there may be found some bronzes that are equal to anything anywhere, and these will in the proposed readjustment find a place and setting worthy of their great artistic value.

These are the wonderful bronzes by Barye and DuBois, now in a sense neglected by reason of improper placing. Their relocation in their new setting will awaken the people of Baltimore to a realisation of a long unappreciated artistic heritage.

To make a start in the artistic rehabilitation of this section of the city, the problem became one of reducing the surrounding elements that had been assembled in much inconsistency to a better co-ordination with the original design by Mills and the plan by L'Enfant. It was therefore decided at the outset to retrace, as it were, the steps already taken, and in doing so to eliminate every detail which marred the original composition. It took a certain amount of courage even to suggest such a course, for the people of Baltimore, by long association, had acquired a certain reverence for the section, and would be apt to regard with a certain amount of dissatisfaction the iconoclastic tearing down of so many supposedly permanent features. Particularly among the majority, always less well educated as to the value of æsthetics, would this section be raised. But fortunately the people of Baltimore have a very large amount of confidence in the Mayor and those who are in charge of their æsthetic well-being. When Mr. Thomas Hastings announced his scheme for the rehabilitation of this section the people first hesitated in the contemplation of an improvement so radical in its purpose, and then with wonderful unanimity enthusiastically endorsed the plan. They found it good. Mr. Hastings's plan for proposed improvements of Mount Vernon and St. Louis Squares has been approved, and will be carried to completion.

It may be seen by reference to the accompanying illustration and to the supplementary plates in this issue, the chief element in Mr. Hastings's plan is the introduction of a monument to the Marquis de Lafayette. This equestrian figure will be heroic in design and will be located on the south side of the Arlington Monument, looking down Charles Street. It is proposed to have this monument executed by Paul Bartlett, the sculptor of the Lafayette Monument that was presented a few years ago by American school children to the city of Paris. Emphasising the incidence of this statue will be a balustrade on the west and east sides of the circle surrounding the monument. The bronze figures by Barye and DuBois will then have an appropriate setting, as four of them will be placed on the balustrade.

#### *Examples of Modern Furniture.*

The dressing chest and the small cabinet illustrated in this issue are two further interesting examples of modern furniture designed by Mr. W. F. Crittall. Like the chests illustrated a fortnight ago, these specimens are notable for their simplicity of design and execution. There is a complete absence of conventional carvings and similar decorative effects, and little has been done to soften the outlines beyond rubbing off

the sharp angles. In spite of their somewhat austere simplicity, these pieces have a distinct charm of their own.

#### *Elevations for L.G.B. Model Housing Plans.*

This week's double-page supplement contains reproductions of three further elevations designed by a well-known architect to fit the model plans of the Local Government Board. It had been objected by certain critics that these plans did not lend themselves to satisfactory elevational treatment. This criticism, we think, is shown to be groundless by the elevations now illustrated, which, in addition to being logically developed from their plans, are instinct with that homely charm so peculiarly the attribute of English domestic architecture, yet withal so difficult to resolve into its elements. Simple as these are, and easy of ascertainment, it is difficult to recombine them in original designs without loss of this effect; and it is in preserving it undiminished that the architect shows his complete mastery in this kind.

### DAMAGED BUILDINGS AT ST. QUENTIN.

IN last Saturday's "Daily Chronicle," Mr. George Herbert Perris, one of its brilliant war correspondents, describes in considerable detail the havoc that has been wrought at St. Quentin Cathedral.

The great square tower (he writes), which, with the high roof burned in one of last year's fires, was a landmark throughout the countryside and a first-class German observatory, shows a number of shell holes. The vaulting of the apse has completely, and that of the splendid Gothic nave springing over 40 ft. high, has partly, fallen in, stone and dust littering the floor. Of the beautiful stained glass windows and of stone and woodwork dating back as far as the twelfth century only pitiful fragments remain. Parts of the chapels that had survived the shocks of six centuries, that the Spaniards of Queen Elizabeth's day and the Germans of Bismarck's had spared, are now shattered, and the frescoes of the choir are open to the cold autumn sky.

In the neighbouring Grande Place there remains of the elaborate monument of the siege of 1557, with its surrounding statuary, only a broken pillar. The façade of the quaint and charming fifteenth-century Town Hall, with its gallery of seven arcades, its upper balustrade and wooden bell tower, is intact, but the fine windows are gone; the roof has fallen in upon the Renaissance council chamber, and the floor of the building, now encumbered with rubbish, is believed to be mined.

In a near street the vast building called the Palace of Fervaques, after an ancient convent, and containing the law courts, public library, and a large festival hall, appears to have suffered little, but I had no time to examine it closely.

The enemy removed from the Lecuyer Museum eighteen months ago the famous collection of Quentin de la Tour's pastels, which were for a time exhibited to German art lovers at Maubeuge, and may still be on show there. A large chateau, in Renaissance style, apparently gutted by fire, caught my eye, but it was impossible to prolong our visit. After an hour's perambulation shells began to fall near, and we made off.

Much of the material damage of St. Quentin may be explained on military grounds, Mr. Perris admits, but the lifting of every bit of furniture, the machinery, the family treasures, and the artistic heritage of a modern community, is robbery on a scale and, indeed, of a kind that history has not hitherto known. St. Quentin is only the latest illustration of this Teutonic achievement.

Mr. Perris is perhaps too lenient to the looters of other days; but their example does not excuse these latter-day Huns.



## BOOK NOTICES.

*The History of the English Home.*

The publication of a book by Mr. Gotch is something of an architectural event. In the first place, it means mental refreshment and recreation for his brother architects; in the second, that one of our leading propagandists is continuing his good work on behalf of our cause. The second is, perhaps, the more important of the two. By this it is not meant that our own home is in such order that we have no need to learn, but that outside is real disorder and chaos; we may not all of us have found architectural salvation, but there are many converts; without the gate the heathen really do flourish.

That deplorable ignorance on all matters architectural still exists is surely one of the leading causes of our troubles. The outside public have little, if any, appreciation of the functions of an architect; they entirely fail to give him any credit for the creative or constructional side of his work, and if they think of him at all it is only as an anæmic decorator whose services are better dodged.

It is perhaps not so much want of heart as want of thought and utter lack of knowledge that has prompted those in authority to undertake much of the war-building without any architectural advice, or which has resulted in good men being employed as tracing clerks under the guidance of preposterous old soldiers. Certainly the architects have shown to greater advantage when soldiering than the military men who have usurped the T-square.

So that we all owe Mr. Gotch a debt of gratitude for the good work he has done and still continues to do. "Architecture of the Renaissance in England," "Early Renaissance Architecture in England," "The Growth of the English Home," and now this new book, "The English Home," constitute a splendid record. One of Mr. Gotch's special merits is that his work

appeals to the layman. He combines with an authoritative knowledge of his subject an art in presenting it which gains the interest of the reader. The fundamentals of planning and the principles of construction are not in any way neglected; the book, in addition to a very fine series of photographic views, is generously provided with plans, and architecture in Mr. Gotch's hands becomes not just so much bricks and mortar but a concrete expression of the life of a period.

The other day the critic's family had to entertain a very charming old lady. Tea had been provided on as generous a scale as is possible in these hard times. The old lady arrived, but Mr. Gotch entertained her for us; it came about in this way—being of a literary turn of mind, our guest gravitated to a bookcase and came across "The English Home," and for the rest of her stay was immersed in it. From time to time we were told that she found it extremely interesting; that it was just the sort of book she had always wanted to find, and that it was much more interesting than many novels. So the family ate up the buns and the charming old lady was



STAIRCASE AT DAWTREY MANSION, PETWORTH. 1653.

(From "The English Home from Charles I. to George IV.")

pleased. If Mr. Gotch can captivate old ladies and the young ones, and through them their menfolk; if we can make twentieth-century people as interested in our art as were the eighteenth-century and women of whom he writes so well,



RAYNHAM PARK, NORFOLK, circa 1636. GARDEN FRONT.

(From "The English Home from Charles I. to George IV.")



does us all a very good turn and it is quite right to say that he is one of our most valuable propagandists.

So far as this new book, "The English Home," is concerned, its arrangement consists of an introduction linking it up with the Elizabethan and Jacobean periods. The second chapter is on the change in the third, the third and fourth are devoted to John Jones and his pupil, John Webb.

Mr. Gotch, in writing of that great artist Inigo Jones says: "His first architectural work of importance was the Banqueting House at Whitehall, which was finished in 1622. It has no trace of traditional English design about it. To us it appears a beautiful building, but by no means abnormal, because we can see many others of the same type. But to those who lived when it was just built, it was something entirely novel, something in which they sought in vain for any of the customary devices for producing architectural effect." This passage seems to the writer very valuable, because we are apt to get the enormous differences which were made to our architecture by the genius of Jones, stimulated by his visits to Italy in 1600 and 1613-14. Raynham Hall remains as a puzzle; the exterior of the house, with its pleasing irregularities of skyline, does not jump away so wildly from its period (1636) as does the hall at Whitehall, though the latter, of course, is not so advanced in style than the Banqueting House, but Jones seems to have run away from the people who were to live in it. Like a drawing of the Raynham Hall and its figures, the men as cavaliers and the women with their skirts slit in the front like the Elizabethans, only pulled up and stretched one over each hip, and they look, all, just a little bit old-fashioned. Their style agrees much better in Swakeleys, Chiswick, or Aston Hall. Of course, the architect may have stipulated for an exterior which should be reminiscent of the work which was used to. Mr. Gotch thinks the house was built in two periods, but the style in the Hall is very similar in detail to that in the exterior of the Banqueting House, and the room might well have been designed by Jones in preparation for the Banqueting Room at Wilton (about 1649) which "deserves its reputation as the finest room in the country."

Mr. Gotch gives some very interesting illustrations from the Smithson collection of drawings which are not nearly so well known as those by Thorpe. (It may be recalled that Smithson died in 1634, so that he was the immediate predecessor of Inigo Jones, born in 1573.) One of these is described in Mr. Gotch's book as "Elevation of a House not named," and contrast this with Fig. 33, which must have been building in the year Smithson died, at once makes apparent the great advance made by Jones. A staircase at Dawtry Mansion, Petworth, 1652, shows how long the Jacobean influence lasted.

The book takes us pleasantly step by step through the Wren period until we come to the pretentious times of the Georges, and the House of Hanover has never been celebrated for its taste. Castle Howard, Risenheim, Wentworth Woodhouse, and Rockham, which Dr. Johnson aptly said would do excellently for a town-hall; the large room with the pillars would do for a judges to sit in at the assizes; the circular room for a jury chamber; and the room above for prisoners."

Mr. Gotch thinks we should go to the taller houses for inspiration, and says of the larger that they illustrate "the attitude of mind of the nobles of the time, their

assumption of qualities which placed them on a plane above the rest of mankind."

Eighteenth-century architecture is of interest to us in that we must needs go back to it to pick up the architectural threads which were so sadly unravelled in nineteenth century times, and yet it does not serve us at all because it was at heart a very aristocratic art. The average Georgian house was an abomination from the point of view of the servants, condemned to live in dismal basements, and the planning of an Elizabethan house was far more democratic, yet the former lends itself better to our methods of machine reproduction and the latter is hopeless without the craftsman. So there is just one more muddle.

Mr. Gotch's book has been beautifully produced by Messrs. Batsford, and is

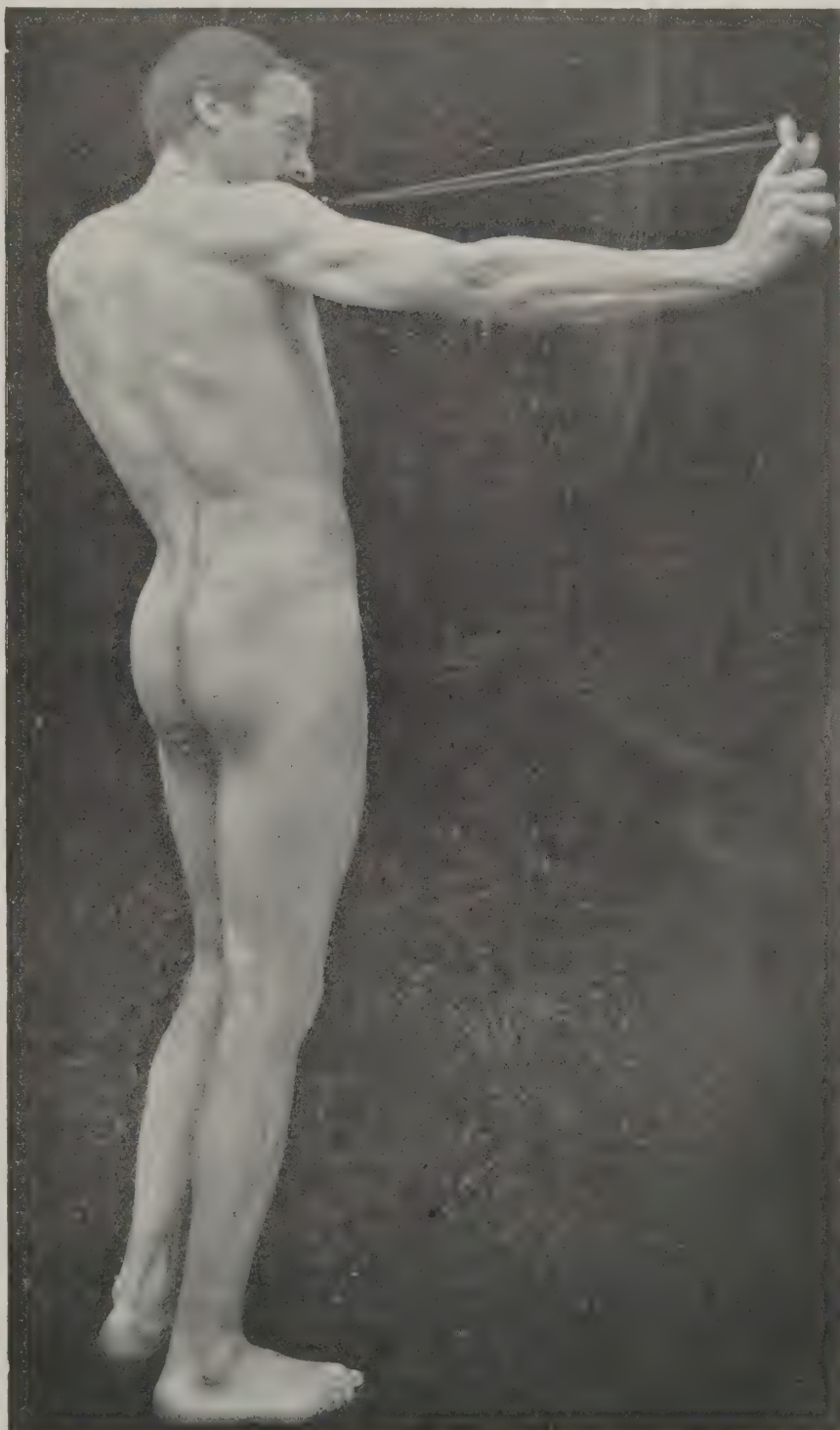
everything that an architectural book should be, but if printing on thinner paper would have tended to keep the cost down and so increase the circulation, in the long run it would have been better because there would have been more converts.

C. H. B. QUENNEL.

"The English Home, from Charles I. to George IV.; Its Architecture, Decoration, and Garden Design." By J. Alfred Gotch, F.S.A., F.R.I.B.A. With upwards of 300 illustrations from photographs, drawings, and engravings. Large 8vo. 30s. net. London: B. T. Batsford, 94, High Holborn.

#### "Studies of the Human Figure."

Although separate photographs taken from the nude have been long in use by artists we are not aware that any attempt has been made hitherto to collect such



A PHOTOGRAPHIC STUDY OF THE MALE FIGURE.

(From "Studies of the Human Figure.")



studies in an album like that which Messrs. G. M. Ellwood and F. R. Yerbury have prepared, the former doing the text, the latter taking the photographs, while, presumably, the posing of the models was stage-managed by Mr. Ellwood, who in that case is to be congratulated on seizing the most useful series of attitudes that could be arranged.

While it may be granted freely that a photograph can never be an altogether satisfactory substitute for a living model, it must also be conceded that there are very many uses for which it would be inconvenient and even ridiculous to go to the life when a photograph serves equally well, or even better. Quite a long list of such purposes is given in the introduction to the seventy-eight fine plates in which the undraped human figure, or its bony or muscular substance, is shown by camera, pencil, or brush; the photographs far outnumbering the drawings, which, however, comprise some fine examples, such as the study in charcoal by Puvis de Chavannes, studies in pencil by Mr. Arthur Mason, and a study in pencil and wash by Mr. W. Walcot. We agree with the claim that "a photograph from a good pose given by a thoroughly well-chosen model is a priceless possession to an expert draughtsman who understands anatomy sufficiently to interpret it intelligently." Further, nobody who examines the book will demur to the opinion that the collection of photographs taken by Mr. Yerbury for this book will prove an inspiration to the painter, sculptor, or decorator. Mr. Ellwood's text is no merely perfunctory introduction to the plates. It contains a generous measure of sound advice pithily and cheerily expressed, and conveys much valuable practical instruction on the phase of art with which the book deals specifically—i.e., with the human figure and its anatomy. In every respect this handsome volume may be regarded as a solid contribution to art education.

The sample here reproduced is Plate LIV. in the volume, in which it is described as "a beautifully balanced figure of a man with a catapult, with the muscles of the back and arm finely shown."

"Studies of the Human Figure." With Some Notes on Drawing and Anatomy. By G. M. Ellwood and F. R. Yerbury. London: B. T. Batsford, Ltd., 94, High Holborn.

## ENQUIRIES ANSWERED.

### *Has a Woman Architect Designed a Church?*

A lady correspondent writes to ask whether a church has ever been built from the designs of a woman architect. We cannot remember an instance, but should be glad if any reader who knows of one would kindly forward particulars to the office of this journal.

### *Belfast Roof Truss.*

"ARCHITECT" writes: "I should be glad of your help with regard to the roof over a shed 100 ft. by 60 ft., as sketch [not reproduced], the floor space being left unobstructed. The Belfast truss is presumed to be the best to adopt over this span. A lantern is required over a portion of the centre, windows being in the side walls. What scantlings would be necessary for a truss of this span? and would the bracing shown be sufficient in view of the brick walls and piers to three sides?"

—Belfast roof trusses 100 ft. span, 12 ft. 6 in. deep in centre, and 10 ft. centre to centre, covered with boarding and

"Rok," or similar roofing material, require 2-11 in. by 2 in. or 2-9 in. by 2½ in. string pieces, 2-6 in. by 2 in. bow pieces, properly scarfed and jointed, and 4½ in. by 1½ in. lattices, the purlins being 2 ft. centres and lattices meeting at each purlin. The bow and string pieces will be 2½ in. apart, to leave room for the lattices, which must be nailed together at each crossing. Trusses braced as suggested.

HENRY ADAMS.

### *Value of Leases.*

W. H. writes: "I have to advise on several short-date leases, which have about thirty years to run. They are built on by various classes of buildings, and the tenants are desirous of purchasing the leases. I want to arrive at the present-day value, taking into account reversioner's interest, value of lease, and so on. Can you give me the name of standard works or text-books on this subject?"

—In valuing leases and reversions, the chief factor which must be determined is the rate of interest that an investor in such property should rightfully obtain in return for his capital—this is purely a question of experience, and depends upon the class of property, the age of the building, and the length of the lease (and the possible liability upon the tenant for dilapidations at the end of the term).

The best tables of which I have any knowledge are Inwood's, published by Messrs. Crosby Lockwood at 8s. Professor Curtis's book on "The Valuation of Land and Houses," published at the "Estates Gazette" office at 6s. may be what you are enquiring for. The recently depreciated value of money should be taken into account when using these works of reference, which were written in the days of three and not five per cent. returns.

F. S. J.

### *Drying Apparatus in Cabinet Works.*

"TREBLA" writes: "Kindly give a short description of the requirements for a drying chamber in connection with cabinet making works."

—The system recommended for the drying of timber is similar to that employed for drying hides in leather works, and cardboard in papermaking establishments. In this class of work it is not possible to employ the mechanical drying cabinet in which the material being dried is hung on hooks and conveyed through the chamber on a travelling band. In any case, assuming the drying to be accomplished gradually at a temperature of say, 80 degrees Fahr., there are two methods which might be employed.

The first and probably the cheapest arrangement would be to heat the chambers with rows of 3-in. cast-iron gilled pipes, placed round the room in 6-ft. lengths, and having two or more motor-driven ventilating fans of small size (about 12 in. would be ample) fixed on the walls.

The object of these fans is to act as agitators or wafters of the hot air rising from the steam coils, so that it would give full service by extracting the maximum amount of moisture before being withdrawn by louvres or other means of ventilation.

In the ordinary course of drying by means of steam coil pipes alone without the aid of fans, the hot air would be sucked out of the room by the ventilators almost as soon as it was generated and before it had time to give the maximum service. Each section of coil pipes is complete with syphon bend, flanges, joints, steam valve, and holdfasts.

The alternative and more modern prac-

tice is to heat the chamber by hot air generated in an air heater, which can be either exhaust or live steam at 30 lb. pressure per square inch. This is known as the hot-blast system, and is utilized largely for drying hides, cotton waste, paper, laundry work, and a large variety of material. The heater consists of steam heads or ends with steam tubes supported between same, the latter being closed by a cylindrical steel-sheet cap with air inlet and outlet saddles. The exhaust or live steam, as the case may be, passes through the tubes so that the covers and tubes only are subjected to pressure. The air is drawn across the outside of the hot tubes and is guided by baffle plates to take a zig-zag course in order to ensure uniform heating. The end covers are of cast-iron dished section ribbed inside and bolted to mild steel tube plate into which are expanded the 1½-in. diameter solid-drawn mild-steel tubes. In conjunction with the heater is a steel plate exhausting fan running at a moderate speed, which blows the hot air from the heater into a sheet-iron distributing duct running along the bottom of the walls on one side of the room. This duct has a door in each 6-ft. section, so that the hot air supply at any given point in the length of the duct may be regulated according to requirements. In addition to this arrangement of air heater, steel-plate fan, and distributing duct, the wafting fans in the walls, as described, considerably improve the efficiency of the system.

With regard to the capacity of the installation, this depends entirely on the dimensions of the chambers, and the amount of moisture in the material undergoing treatment.

As an example of the alternative proposal, a chamber 36 ft. square utilised for drying wet timber would require a 9 ft. 18 in. diameter air heater, a 12-in. diameter steel-plate fan, and sheet-steel distributing duct of 16 W.G. square section 24 in. 12 in., with controlling doors every 6 ft. If the wafting fans were also installed, a uniform temperature of 80 to 100 degrees Fahr. could easily be obtained at every part of the chamber.

ANDREW LOUDON.

### *Purpose of Recesses in an Old Wall.*

R. A. F. writes: "A friend of mine, the owner of an old hall, would like to know the origin and use of some recesses in an old wall adjacent to the main block of buildings. They are about two-thirds of the way up the wall, and spaced at irregular intervals of 8 ft. to 10 ft. They are 12 in. in height and 14 or 15 in. in length, and are recessed about 14 or 15 in. The brick wall above is supported by a very old oak lintel, about 3 in. deep. The brickwork is of about the middle Tudor period, the bricks being slightly smaller than 9 in. 4½ in. by 3 in.

—It is difficult to form an opinion about the recesses mentioned without seeing the wall and its surroundings. The only suggestion that occurs to me is that they were intended to receive the ends of beams carrying either a floor or the roof of a building. The fact that the recesses are covered with oak lintels rather points to their having been inside a building when made. Possibly some traces of a side wall corresponding with the existing one (and originally carrying the other end of the beams) might be found. The distance apart of the recesses points in the same direction. Their height from the ground would point to the ground level having been raised. Could the existing wall have been the back wall of an arcade or cloister which had a flat roof?

J. A. G.





WAR BUILDINGS SECTION

REINFORCED CONCRETE FERMENTING TANKS.

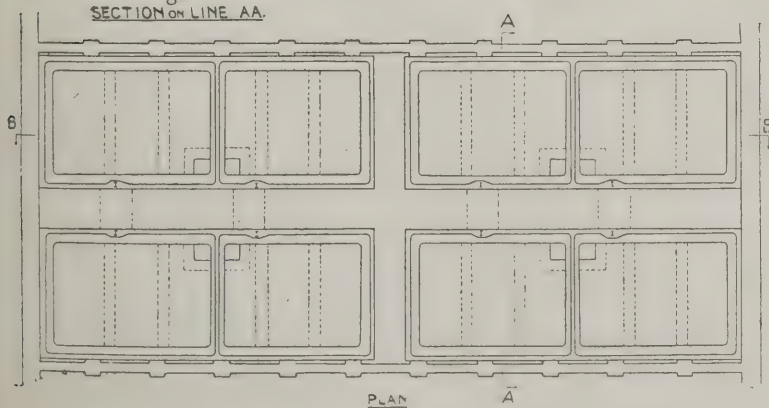
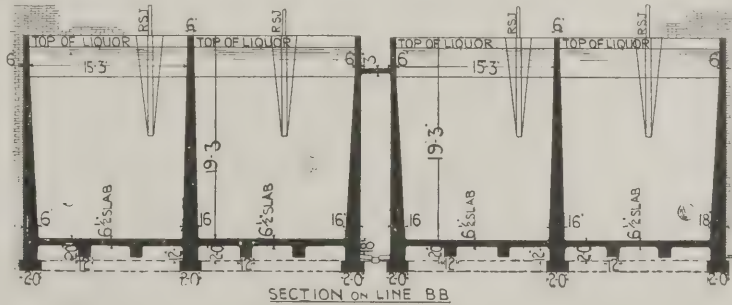
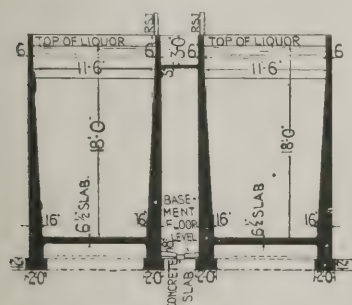
SYSTEM of reinforced concrete fermentation tanks has lately been constructed for the Australian Distillery Co., Ltd., Melbourne. There are eight tanks each 19 ft. 3 in. deep and capable of holding 20,000 gallons of fermenting liquor, and when the whole system is working these tanks are capable of dealing with 160,000 gallons of liquor. The tanks are arranged four on each side with a 3 in. reinforced concrete platform running centrally the whole length of the building. The liquor after being treated and spouted into the tanks from a system of overhead spouts, and is allowed to remain there until the fermenting process has been completed, a considerable

quantity of carbon dioxide being given off during this process. After fermentation is completed the liquor is drawn off from the bottom of the tanks and passed to the distilling plant where it is converted into rum, brandy, whisky, etc., according to the liquor dealt with. The liquor, being hot and containing acids, tends to eat away the outside skin of the concrete.

Several methods of treating the surface of the tanks were tried, the first method being to give the cement a glass finish with a steel trowel, and then coat the smooth surface with a solution of water-glass. This, however, was not effective. Special acid-proof preparations were then tried, but without success owing to the high

temperature of the liquor. It was then decided to coat the inside of the tanks with a solution of hard wax made by boiling down old gramophone discs. This wax is very hard and melts at a higher temperature than the temperature of the fermenting liquor, and being acid-proof has proved more successful than any other material tried.

To get the most efficient results the cement should be left with a fairly rough surface before applying the wax, and the cement must be absolutely dry, otherwise any moisture in the cement gets converted into steam under the wax, and has a tendency to blow the wax off in patches. Some of the new reinforced concrete tanks



REINFORCED CONCRETE FERMENTING TANKS.  
AUSTRALIAN DISTILLERY COMPANY  
MELBOURNE, AUSTRALIA.

SYDNEY SMITH & TONG,  
ARCHITECTS.  
MELBOURNE.



thus treated have now been in operation nearly twelve months and are giving perfect satisfaction. They are considered an enormous improvement on the old wooden tanks formerly used. The construction of the tanks was carried out with great success by Mr. Martin, who had charge of the work under the architects, Messrs. Smith and Ogg, Melbourne. Considerable difficulties had to be overcome in the construction, as the work had to be done in an existing building, the old wooden tanks being replaced one by one in such a manner as to prevent interference with the output of the distillery. The whole of the work was carried out by day labour under the direct supervision of the architects, the reinforcement being Kahn Rib Bars, which are specially designed for tank work, as they prevent the development of serious temperature cracks which might let liquid through.

The steel reinforcement was supplied by Messrs. Geo. Russell Proprietary, Ltd., 45A, Flinders Street, Melbourne, agents for the Trussed Concrete Steel Co., Ltd.

### NEW TOWNS AFTER THE WAR.

In the course of a circular letter to the members of the Public Health and Housing Committee of County Councils, the Garden Cities and Town Planning Association write as follows:

The President of the Local Government Board, at the annual meeting of the County Councils Association, stated that wider powers of housing were to be given to County Councils, and pointed to the desirability of each County Council calling a conference of the local authorities within its areas in order to discuss the whole question of housing for the county.

Whether or not your Council proposes to call, or has already called, such a conference as is suggested, we venture to put before you some considerations which we

would ask that the members of the County Council should bear in mind whenever the question of housing in the county is under consideration.

Whatever is done in the matter of erecting houses by authorities other than County Councils will probably be on the lines either (a) of adding to the population of existing towns or villages by erecting new houses within them or by extending their areas by the erection of new suburbs, or (b) by erecting cottages, singly or in blocks, here and there within certain rural districts.

We venture to urge that while, on the one hand, it is most undesirable to increase the area or the population of existing large towns, on the other hand, the number of cottages which Rural District Councils are likely to build will only touch a small portion of the great housing problem which will arise after the war, and we would ask that County Councils would take into consideration the possibility of dealing with the matter on altogether broader lines.

What we venture to suggest is that County Councils, on making a general survey of the housing needs of their areas, should consider the possibility of selecting certain spots which would be convenient centres for future industrial development, with the object of providing the means of establishing new towns on the garden city plan. An essential element of that plan is that a town should be of a population large enough to allow of efficient industrial organisation and full social activity; but no larger; the urban area being limited to a size requisite to house this population well, and surrounded by a zone of open land large enough to possess a distinctively rural and agricultural character.

The site chosen might be either purely agricultural land, or a small town whose old buildings and associations would form a valuable nucleus for the building up of a

new town. In any case, of course, a convenient railway system would be of the greatest importance, while the possible revival of canal traffic might also be borne in mind. The buildings of munition works might form a foundation; or special industries, which are waiting an opportunity for development, might point to particular situations as specially suitable.

The procedure by which such a scheme should be carried out might be through a public utility society or by such other means as might be suggested; but it is of importance that the land should be publicly owned, in order that the unearned increment which would arise from the growth of the town might go towards local public purposes which would frequently involve the relief of rates.

### A New Kind of Purse.

A very useful kind of purse has been evolved by Messrs. Jarrold and Sons, Ltd. of Norwich. Appropriately described "The One for All," it is ingeniously designed to hold both cash and notes—former in a single pocket at the front, and the latter in a double section at the back which folds neatly inwards to the same space as the front compartment. The purse has been taken up largely for the troops, and many thousands are being made for sending to France. The American and French rights are reserved. The price is 3s.

### Bell's United Asbestos Co., Ltd.

The directors of this company (whose London offices are at Southwark Street, London, S.E.1) have declared an interim dividend on the ordinary shares of 1s. 6d. share less income-tax (being at the rate of 10 per cent. per annum) on account of profits for the current year. The dividend will be paid on the 21st inst., and the ordinary share transfer books will be closed from the 7th to the 21st inst., both dates inclusive.



FERMENTING TANKS FOR THE AUSTRALIAN DISTILLERY CO., LTD., MELBOURNE.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

OCTOBER 16, 1918.

TOTHILL STREET, WESTMINSTER.

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## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in testing the efforts of the Government Paper Converter to eliminate waste. This they may do in one of two ways—*

*By placing a direct subscription for the Journal with the Publisher, or*

*By placing with a newsagent an order for its regular delivery.*

ATA for cottage-building are being sought by the Committee of the Privy Council on Scientific and Industrial Research. Points on which information is specially requested are enumerated on a later page. When the required information has been gathered, it should not be pigeonholed, nor reserved for publication in some Government pamphlet or Blue Book, but should be sent at the earliest possible moment to the public Press, especially to the technical periodicals, whose readers will have a practical interest in it. Of course, if the object in pigeonholing were to avoid a trading loss, or the object in withholding it were to make a trading profit, the failure to adopt the fullest means of publicity would be quite consistent with a policy that might be commercially sound while economically disastrous. No responsible Minister would sanction such a system if it were brought to his notice; but such matters are usually left in the hands of permanent officials, whose minds are usually bent on "making the department pay" rather than on matters of national policy. Again, the issue of Government publications being let out on hire, it may very well be that the booksellers who are the agents are somewhat jealous of their trade. Hitherto there has been but little ground for complaint of any sort of monopoly, although tendencies towards shopkeeping or trading ideas of Government publication have been occasionally visible, and should be rigorously kept in check. If profit on sales were an important consideration, this object were best secured by sending directly to the technical journals concerned a full regular supply of the official publications that are within their scope. This is not done, and it is not to do it. Occasionally and casually we receive copies of Government publications, but, really speaking, they have to be acquired by purchase. That is no great grievance, but it is clearly the way to secure wide and effective publicity; especially since it assumes that editors need not be surprised by new official publications, but will watch for the opportunity of buying them. In other countries—notably in the United States—Government publications are disseminated on a much more liberal plan.

In respect to the data for cottage-building, there are among the examples of the data required, one or two which seem to invite comment. Take the first of them, which asks for "traditional methods of laying and bedding pantiles or small waste slates." These may be feasible if they are easily obtained; and if, on the whole, and in spite of the extra timbering they require, they are cheaper than artificial tiles; but the expression "small

waste slates" conveys an unpleasant impression of that excessive straining after cheapness that we feel bound to deprecate on every occasion. A cottage roof patched on crazy-quilt-wise cannot look dignified: it is too plainly suggestive that leavings, odds and ends, scraps from the rich man's table, are good enough for the labourer's cottage—an idea that none but a cynic would entertain for a moment. Nor is it easy to discern what good can come of an inquiry as to "methods of building walls with thin bedded stone such as slate or flag-stones, with rubble such as granite, ragstone, whinstone, etc." Cottages in the vicinity of quarries might be built of such materials, which, however, would not be worth the cost of carriage to districts distant from them; and while rubble walling, properly done, may be made very beautiful, walls made from mere quarry-sweepings do not promise much æsthetically, whether or not they suggest more or less purely hypothetical saving in cost. Quarry waste, or such of it as the road-mender does not want, could surely be adapted to more profitable uses—for example, it is powdered for plaster or for the manufacture of artificial stone, or is ground up as aggregate for concrete. About the rest of the inquiries there is nothing sinister, unless that relating to "any porous stones, or stones liable to sweating, and any local methods of avoiding the difficulties to which they give rise," may be thought to reiterate the insinuation that anything is good enough for labourers' cottages: which is an anti-architectural idea.

Now, if architects are to have anything whatever to do with cottage-building beyond collecting data of materials of which houses should not be built, they may be trusted to repudiate every suggestion that tends to degrade their art. They need not hold aloof from this inquiry. On the contrary, they should be glad to take part in it, if only because their knowledge and experience may serve to keep it on the right lines. Their influence on the whole subject of cottage-building is badly needed. It is for that reason that we have felt bound to give a full measure of support to the R.I.B.A. attitude towards national housing. Some of those who deprecated the idea of the Institute's organising a national competition alleged, very bluntly, as the reason for their opposition, "There is nothing in it for architects"—meaning, presumably, no money and no art. That therefore the architect would be justified in washing his hands of it was a rather pitiful view to take of a subject of national importance, and we feel sure that it was held by no more than an insignificant few among the members of a liberal profession. Of course, there is a sense in which all must recognise that the observation is true; and if indeed the architect will join heartily in a movement that holds for him neither fee nor fame, he is playing the loyal citizen, and performing an important communal service. What is more, his influence is already manifest in the designs that have been published, and still more forcibly in the wise counsel contained in such lectures as those delivered at University College by Professor Adshead, whose humane breadth of view has lifted the subject clean out of the rut of narrow convention to which it had been consigned. He has shown—what ought to have needed no demonstration—that cottage-building is an essentially architectural subject, and it is to be trusted



that the professional interest in it which he aroused will be steadily maintained, if for no other reason than that the condition of the cottage has its reverberations in bigger buildings.

Entering Cambrai immediately after it had been evacuated by the Huns—in accordance with their plans, or ours—Mr. Philip Gibbs found that the cathedral had not been badly damaged, although there was still some fear that the fire might reach it; for, of course, the barbarous enemy may be expected to burn and pillage every town through which he is driven. Particulars are lacking, but it is only too probable that some of the ancient houses, said to be of Spanish origin, have been destroyed. They survived the German occupation of 1870, when comparatively little destruction was wrought either there or elsewhere—three reasons forbidding it—first, the Germans wished to stand well in the eyes of a world which they did not then feel strong enough to attempt to conquer (they had no fleet); secondly, they were advancing victorious instead of beating a retreat; and, thirdly, their implements of destruction were of less deadly efficiency. They may be trusted to devastate and ravage all the territory through which they are chased. It is part of their mediæval militarism to leave behind them on retreat a blazing wake, and it is easy to infer the ferocity with which they will lay waste the buildings that their victorious enemy has cherished. They are an excessively vindictive race, and many of their otherwise inexplicable deeds may be safely set down to their national vice of paltry spitefulness. It will not be forgotten that malignant hatred of other races is deliberately fostered in German infant schools. We can only anticipate, therefore, that their path all the way back to German territory will be a blackened trail; for excessive shortsightedness is another of their unfortunate infirmities, and they do not see that they are making the day of reckoning infinitely harder for themselves, and that when they again essay the pursuits of peace they will find that their commercial credit also has become a blackened ruin.

"Town for Town" is the heading of a collection of interesting opinions in the "Daily Mail." Some of the suggestions are distinctly amusing, if a little impractical. When a French town is destroyed, a German town of comparable size is to be marked down for destruction. From each doomed town the Allies are to send away the inhabitants with no more goods than they can carry in their hands: the rest of the furniture, fixtures, and fittings are to be removed by Hun prisoners to safe storage, whence it can be removed to the renovated Allied towns—then the German town is to be razed. Another correspondent makes the brilliantly impractical suggestion that, as we shall have a shortage of labour, we should commandeer Germans to reconstruct what they have destroyed. This seems to be rather a favourite idea, for a correspondent who writes from a parsonage thinks it "reasonable and practicable that among the final peace terms there shall be a clause requiring Germany to supply and maintain in camps, with food, clothing, and wages, not fewer than two million men, together with materials, for and until the complete rebuilding of all damaged towns and villages in Belgium and France. This form of punishment is fully Christian." As this jurisconsult is apparently a clergyman, the theological aspect of the question shall be taken on trust; though we cannot help feeling that the presence of two million Boches botching up the buildings they had destroyed would be a severe test for the Christianity of the native population. As a matter of personal choice, one prefers the buildings the Boche destroys to those that he puts up, which are hard enough to endure on his own territory, but would be

simply intolerable in France, Flanders, or Italy. Mr. Balfour permitted himself to say the other day that the Boche is a brute; and of late years his build has been as brutish as his demolitions.

With reference to a housing conference held at Sheffield some blade-sharp comments appear in the "Sheffield Daily Telegraph." It would seem that the conference resolved itself into the giddy game of "Here we go round the mulberry bush," for "delegates" went round and round the President of the L.G.B. Government Board, and the President went round and round the delegates, with the result that they remained at the end very much where they were at the start. But it must have been confusing to the onlooker. He must have seen the crowd prancing round for some considerable time after they had actually stopped, and he must have fallen into the perplexity of Copernicus, who at one stage in his meteoric career could not feel at all sure whether the spectator was revolving round the planets or the planets round the spectator. Our contemporary, however, is by no means giddy, but sees the housing question steadily and sees it whole. He sums up very tersely: "Even if the materials were available the cost of building is too great for private speculation. The solution suggested is that the municipalities should build, that the houses shall be let at less than their paying value, and that the Government shall make good seventy-five per cent. of the loss. The other twenty-five per cent., estimated at a penny in the pound on the rates, is to come from the towns. In other words . . . all the people are to be both taxed and housed, to provide houses for some of the people." At Manchester, the conference was informed, is already paying twenty thousand pounds a year out of the rates to make up for housing deficits, and if that system is to be perpetuated "ratepayers will be more interested in cheap houses than in healthy houses, and in defence, towns will have to build slums in which to rear C3 people instead of model villages for the development of a race of A1 men and women." The contemporary advises the L.G.B. to think it out on more original lines, with special reference to ratepayers' wages. To get economic rents you must have economic wages, and to give economic wages you must remodel the industrial system, which since the war cannot be permitted to go on multiplying C3 people on C3 wages; nor can we afford to let municipalities run up C3 houses to save the rates. The move here begins to resemble a vicious circle.

Public opinion, as reflected in the newspapers, indicates that peace is not yet. It is a boon that has to be had for the asking. We are all so sick of the thought that no patched-up peace will satisfy us. We enter into it with the utmost reluctance, and from a sense of duty. With the same feeling and the same motive we shall keep hammering away until the peace is finished, unless the Central Powers offer unconditional surrender. Peace, however, cannot in any case be very far off, and preparation for it must be pushed with redoubled vigour; for, as Lord Grey has said, victory is in sight though it is not yet within reach. And peace will bring its own special exigencies. There will be met with the same courage, energy, resourcefulness with which the war has been prosecuted. We are almost within reach of the biggest industrial boom on record, and this must obviously involve a tremendous amount of building, for vast quantities of the materials will not be immediately forthcoming, partly because of the shipping difficulty, and partly because of the enormous demand for them in the devastated territories; but if we take the hint of the present crisis, and look well ahead, we shall face the crisis with equanimity what some pessimistic humorists have termed "the horrors of peace."



## HERE AND THERE.

In spite of the pessimists, I have always steadfastly maintained that the war would not last for ever; and though absolute proof is still to seek, will be admitted, I think, that the present position rather tends to support my very cautious estimate of the duration. Let me be quite fair to the pessimists. So far as I am aware, none of them has usually said that the war would last for ever; but hundreds of them have been acting as if they thought it would. I beg their pardon: not "acting," instead of preparing in quietness and confidence for plans for the future, they are apparently waiting for the mad rush that will lift them off their feet and carry them whither they do not want to go. If manufacturers were wise, architects would at this moment be busy beyond all precedent. Possibly they are. Consols went up when the Germans landed down; and, as we all know, a rise in consols is the sure precursor of increased business activity, provided the rise is maintained. There follows early always, and quickly, increased briskness in the property market; and this, in normal times, could be immediately succeeded by a building boom, accompanied by labour-trouble obligato.

But the war is not yet over, although Austria, Bulgaria, and Turkey have caved in and Germany on its last legs. There is still a little time left for the preparation of plans—not merely of plans for building, but of plans having a far wider reach and scope, plans for the reorganisation of commerce and industry, plans for a general election. An election should not take place until the war is over. It should then be short, sharp, and decisive. Results will be eagerly awaited, for obviously they must have a more than usually profound effect on the country's destinies. We shall get from them immediately more than a hint of the trend of legislation. If many Labour members are returned, then we shall see important new phases of the housing problem, of education, of the relations between capital and labour. I have an idea that the new Parliament will not last many months: that it will be a chaotic mixture of heterogeneous groups, the elements of disruption. It will be the experiment of a green electorate voting for persons rather than for principles, and it will therefore be without coherence or consistency, without policy or mandate.

There is reasonable ground for supposing, as so many publicists are supposing, that democratic government will in future—save for occasional reactions—be the rule in Great Britain—that the "governing-class" theory is thoroughly played out. The abject failure of Tsarism and Junkerism is opposed by the spirit of democracy embodied in America, France, England and her colonies, and Italy, has given aristocratic rule its death-blow. That we are at all likely to change our form of government. A Constitutional Monarchy may be less logical than a Republic, but it is also less costly, and has many advantages that the vast majority of Britons would certainly not care to relinquish on a point of pedantry. But though formal ceremony will remain as they are, the spirit must be different. Already the old class-barriers have been broken down. They will be burnt in the fires that celebrate our victorious peace. They will be then as obsolete as the old toll-gates, and coming generations who read about them will wonder why they were ever tolerated. Far be it

from me to say that caste and class never served any good purpose; but if they have not yet wholly lost their function, the new Education Act will obliterate the last traces.

How all this concerns us as architects and builders is palpable. We have not only to meet the demands of the community: we must express its spirit, whether we do that consciously or not. It is best done, I imagine, when we do it without taking thought deliberately as to how we may best catch and embody the spirit of the age. If only we march with the movement, breathe its atmosphere, keep sensitive and plastic to objective effects, we shall design spontaneously with a much truer interpretation than we could achieve by self-conscious, subjective, intellectual effort. Art is a natural growth, not an artificial flower; an emanation, not a product. Too much subjectivity has been the curse of Germany, and is the bane of all art as well as the death of all science. It is the cause of strikes and lock-outs. It is cussedness camouflaged as philosophy, or presumptuousness pretending to authority, and incidentally claiming much more than its just meed. Perhaps the war is teaching us the modesty that, while not incompatible with confidence, keeps it from hardening into mere brazen assurance. Our minds shall surely be more receptive, more responsive than they were before the great stimulus to thought and action awakened us out of a long lethargy, and put to the sternest proof our determination to die rather than abandon our most cherished ideals.

After four years or more of strenuous action and of tense alertness, we shall abandon the old leisurely ways, in legislation as well as in industry and commerce. There will be a touch of military discipline in all that we do. Our captains of industry may emulate the Centurion of Capernaum, who said, "For I also am a man set under authority, having under me soldiers, and I say unto one, Go, and he goeth; and to another, Come, and he cometh; and to my servant, Do this, and he doeth it": but will our soldiers and servants obey with alacrity? There's the rub. Possibly there may be a violent reaction against all this strenuousness and discipline, and against the strict control of our persons, our possessions, and our occupations. Who can say? But this sentence from Messrs. Greenly's "Business" seems true: "It will be a workaday world, with the clock put back fifty years in the matter of simpler living." And simpler living should imply sounder design and construction, because it involves greater attention to fundamental things, and less to those that are superficial and unessential. Certainly this increased simplicity, directness, and soundness should apply to the land laws, which really lie at the base of the social order. They may be said to poison at its source the whole stream of activity. Years ago, when Mr. Joseph Chamberlain was hammering away at this question, he said that the absorption of small holdings into large estates threatened the country with ruin. For this assumption he gave the very reasons that, by a coincidence that is by no means remarkable, have been recently restated in this Journal. And surely their converse holds good—that the subdivision of large estates must lead to prosperity. But the process must be simplified.

DIAGENES.



## FLORENCE, AND THE FLORENTINE WORKMAN.

A COMPILATION BY G. LL. MORRIS.

*At a time when scientific management and quantitative production are regarded, even by Labour politicians, as the ideal for British Trade Unions, it is interesting to notice the contrast between this ideal and that of the mediæval and early Renaissance guilds. "The protection of a standard of excellence in craftsmanship was their vitalizing principle, and the nearer we approach this ideal the more we shall see the necessity for a revival of the guilds in their old form."—"Old Worlds for New," by A.J. P.*

FLORENCE is the link that joins the ancient to the modern world. The opulence of Thebes, the might of Rome, the bright intellect of Athens are of the past; the voices with which they speak are dim and distant; but the speech of Florence is familiar to us, and she gathers into herself all the thoughts and past experience of the world, all phases of human consciousness. Even the civilisation of Athens seems to compare unfavourably with the extraordinary virility of the Italian City; ever active and ever changing, she seems to be continually renewing her youth, never growing to maturity, but always beautiful and always gay. Out of the Tuscan soil sprang this restless city of the south, with a myriad activities, and a passion for perfection that was never to be realised. Amid bloodshed, battle, and sudden death, she grew, and in the intervals of peace and prosperity the squares echoed with the laughter of apprentices and workmen. On Saints' days processions and pageants passed and re-passed through the narrow streets, the bright banners of the trade guilds flaunting defiance at the towers of the nobles. In these guilds and their corporate life were focussed all the cumulative energies of the Florentines.<sup>1</sup> From them, after long apprenticeship, there came a workman with a wealth of ideas, a keen perception in the right handling of materials, and a delight, resource, and freedom unknown to the Greek and Egyptian. For the first time since the fall of the Roman Empire, custom, tradition, and even religion, were subjected to searching and critical inquiry. The workman began to interpret for himself, to visualise and to manipulate his materials into forms suggested by the traditions of a bygone civilisation. No longer content wholly to accept the traditions of the guilds and of the Church, he brought into the arts and crafts that intense individualistic spirit born of the master builders of the time. Long centuries of active resistance to oppression, of subjection to the discipline and organisation of the guilds, seem to have been the centrifugal and centripetal forces which moulded the Florentine of the Early Renaissance into a shrewd, self-conscious, creative workman. Education was universal, "tailors left their benches to attend the Greek lecture. Blacksmiths laid aside their hammers for the pen of history. Woodcarvers found time to study law. Barbers sought the chair of history, and butchers went in for literary research. There was no one, says Dino Campagni, who could not read, and even the donkey boys sang verses out of Dante."<sup>2</sup>

Just outside Florence is the ancient Etruscan town Fiesole. Built on a hill, like many another early town, her merchants at a certain stage in her history found that the demands of commerce became of more importance than the advantages of the hill for defence from marauders, and with a view to a more ready approach to the market, and the easier transport of commodities, they moved their store buildings to the plain below. Here in the narrow valley of the Arno, Florence, a tiny collection of huts, the offspring of Fiesole, first lifts her head. Between the town on the hill and her warehouses in

the plain lines of communication were established, roads were built, commerce was facilitated, and merchant, the workman, and the labourer together made their first steps towards wealth. New habitations appeared, a few of the merchants settled in the plain to be near the market, and then the walls and ramparts were built to surround and protect the fresh scene of industry.

As time went on and commerce increased, Florence began to attract the unwelcome attention of the barbarians invading Italy. In the year 405 A.D. the new town was attacked by the savage hordes led by Radagasius, the Gothic King. For the time the enemy was kept at bay, but the town would have fallen if the legions of the Roman general Stilico had not appeared on the surrounding hills at an opportune moment. After the event, Florence was invaded several times by the Goths, who, though they were cruel, permitted the Florentines to live in their own way, but during the supremacy of the Longobards in Italy between the years 568 and 773 A.D. respect was paid to the laws, rights, and institutions of the conquered people.<sup>3</sup> Unable, however, entirely to destroy the cities they began to inhabit them, as the native population possessed more skill in building and the handicrafts, the Longobards were obliged to make use of the builders and artisans to their hands. In this way the traditions of the ancient associations of craftsmen were carried on during a period when the institutions, laws, and customs of Roman, Longobard, Greek, and Frank were warring one with another. It is very likely that from Early Roman times, and right through the dark years of the declining Empire, the brotherhoods of workmen were never entirely broken up, but continued in a more or less mutilated fashion until the beginning of the Middle Ages, when circumstances became favourable to their renewed growth.

After the oppressive rule of the Longobards in Tuscany, Florence came under the sway of the Frankish, the last barbarians to invade Italy. During the time of their dominion the prosperity of Florence slowly but surely increased. Nearly two centuries later, the city still existed in comparative obscurity, its position from 1076 to 1115 slightly improving. The trade associations must have been gradually growing in a more or less rough-and-ready fashion, trades that were being carried on by groups of families, held together by the ties which arise from working at the same trade or craft. It is impossible to imagine the isolated and independent worker in these times, although the guilds as yet probably had no regular statutes. Meanwhile the feudal nobles were busily engaged in opposing the growing importance of Florence. They continually swooped down from their strongholds on the highway, waylaying and robbing the pack trains of merchandise. The hillsides bristled with turrets, owned by nobles of Germanic origin, and time after time as the waggons and oxen passed out through the gates, they were met by their wayward lords. These marauding nobles gave battle, capturing and destroying the goods and chattels of the busy merchant and artisan. The audacity and interruption of the growing welfare of the small but vigorous community of workers could not continue without a collision, and it was not very long before we hear of organised assaults upon the

1. Edgumbe Staley.

2. "The Guilds of Florence." By Edgumbe Staley.

3. Villari.



ties in the vicinity of the city. They often razed castles to the ground, allowing the nobles to come citizens provided they were willing to conduct themselves in a peaceful and useful manner.

Fiesole, which was watching the growth of Florence with jealous eyes, had at this time become a nest of gands, who infested the Florentine highways and territories.<sup>4</sup> They frequently maltreated and plundered the trader, who was passing quietly through the city with his goods. In the year 1125 a severe conflict took place between the people of Fiesole and Florence.<sup>5</sup> It arose out of one of many such quarrels, caused by the ill-treatment of traders, and resulted in the capture and sack of Fiesole. The little city in the distance "had come to stay"—all obstacles and difficulties were attacked with the same fiery zeal. She seems to have been born fighting, and was never allowed rest till she had vanquished her enemies of the past. Other Tuscan towns rise around her, and she stands among a group of turbulent and fiery townships, each breathing fire and slaughter on one another; crushed for a moment, but always rising to new aggressions and reprisals. And the fighting is not only with outside enemies. There are also contests within the walls. At an early date the interests of the inhabitants are found to conflict with those of the Count and his contadini or serfs. The Count within his ramparts, rival cities without, the machinations of the Church and Empire, both bent on making the little city its vassal, are all rival tutors to Florence.

Throughout these repeated scenes of bloodshed and strife, without the walls, and troubles within, the Florentine guilds were consolidating, and in the early part of the twelfth century were thoroughly established. Side by side with the vigorous policy of chastising those who interfered with her commerce, we see the significant development of the crafts. At the close

of the twelfth century Florence was sufficiently schooled to constitute herself a Republic. Twelve consuls were elected to take the duke's place. A chief magistrate or podesta of noble birth was chosen from an adjoining city. But good and evil fortune, success and defeat soon appeared in the newly constituted state. The parties of Guelf and Ghibelline, of "haves and have-nots," arose as they must do in every vigorous community. The turbulent nobles absorbed, sucked down for a moment under the apparently smooth waters of the Republic, reappeared as the Ghibellines with all the old ideals of Feudalism and its visible signs of shield and spear and of citadel frowning over the town. The Guelfs, more industrious and peace-loving, invoked the Church to aid them in the fight for equality and peace. The Caroccio—a wagon drawn by white oxen, with scarlet trappings, and surmounted by two lofty poles, bearing the banner of the Republic—became their sign in the streets and public squares. In the narrow streets there was continual fighting between the factions, each party following its own banners, ensigns, and heraldic colours. The Ghibelline wore the feather on one side of his cap, the Guelf on the other. When the Guelfs happened to be in power they built their huge square battlemented towers, and with regular bands of masons and piccionieri with picks and axes laid low the towers of their rivals. Then would come the turn of the Ghibellines, and the square battlemented towers would go crashing to the ground, and the pointed M-shaped merlons would take their place. The constant rivalry of these factions led to anything but stagnation. Half the important inhabitants of the town were banished. They went away to Paris and London, and when their own party were in power again returned with new ideas for the extension and improvement of commerce. Within the ramparts, the never-ending plot and counter-plot made the meanest citizen keenly interested in public affairs.

4. Villari.

Villari gives a fabulous account of the destruction of Fiesole in 1125.



LION ON TOWER, PALAZZO OF THE PODESTA,  
FLORENCE (14TH CENTURY).



AN EXAMPLE OF FLORENTINE EMBROIDERY  
(16TH CENTURY).



While the struggle went on, amid the levelling of the homes and mansions of one faction, re-building was proceeding in other parts of the city. Nothing could damp the civic ardour and pride of the Florentine. Walls might be tumbling about his head, the sound of battle and battle cries might be in his ears, but the busy industry of skilled and unskilled workers—the excavators, carters, masons, and joiners—went on much the same. It might frequently happen that the sound of pick and trowel, and the more vigorous blow of the hammer were hushed for a time, and the workman catching the fever of war raging in the next street threw down his tools and hurried away to buckle on the accoutrements of warfare. After the noise of battle had died away, the sound of pick and trowel and hammer would break out again. In spite of the continual fighting and destruction commerce steadily increased. The burghers grew richer and more important; an advanced state of trade and civilisation flourished in spite of endless changes of Government and the strife of parties. The storms and dangers that threatened the Republic made her strong. Every Florentine was ready to make sacrifices for Florence. The rights of the citizens were few, but their duties were many. As soldiers, they defended her within and without the walls; as burghers, they managed her affairs on endless committees; as exiles, they were ever on the alert to forward her interests, to find fresh markets, to discover new secrets for her welfare; as master builders and workmen they vied with each other in the erection of rival palaces and towers,<sup>6</sup> and adorned with beautiful craftsmanship the square, the street, and the home. Public spirit and private interest were at one. The citizen, the workman, and the merchant-soldier

6. Mediæval Florence was full of these towers, rarely less than a hundred sometimes two hundred feet high. On the first occasion, when the Guelphs were driven out of the city, the mansion of the Tosinghi, amongst others, was razed to the ground by the Ghibellines; they even tried to destroy the Baptistery. A tower belonging to the banished Adimari family was to be pulled down, and it was arranged to make it fall across the most ancient building in Florence. The work was fortunately entrusted to the famous Goldsmith Nicolo de Pisano, who, being more of an artist than a Ghibelline, brought it down on the Piazza, sparing the Church.—Troilo. Vasari gives another and, according to Villari, more credible account of this incident, the tower being demolished to widen the Piazza.



COAT-OF-ARMS ON THE PALAZZO FERRONI.

led an active versatile life, and in a period of rest growth always looked forward for his beloved city that ideal, never to be completely realised—"governo onesto, bene ordinato." In spite of all culties, nay! because of them, Florence in thirteenth century had attained a civilisation beyond that of any other city in the world, paving<sup>7</sup> her streets and undertaking works of sanitation.

(To be concluded.)

7. The paving was carried out in 1233 by the laying down of irregularly shaped flagstones, probably an inheritance from the old Etruscan workman. Some few fragments of pavement are still extant.—Troilo. Before this time it was paved with brick. This influence of the Etruscan workman is to be noticed again in the masonry of the palaces at the beginning of the fifteenth century.

## THE PLATES.

### *Details of Florentine Craftsmanship.*

These plates should be studied in conjunction with Mr. G. Llewellyn Morris's admirable "literary compilation," of which the first instalment appears above.

### *The "Maine" Memorial, New York.*

The "Maine" Monument, in New York, designed by H. Van Buren Magonigle, is not perhaps entirely successful as a composition. The extreme animation of the silhouette contains nothing of that sense of repose which should be symbolised in a monument of this class. The naval emblems, sea horses, and figures are a little too excitedly grouped, and the whole is a trifle overwhelmed by the huge size of the pedestal, which is a little too square and unrelieved. It is altogether satisfactory to the eye. The monument gives the impression that it is essentially a product of the design. On the drawing board, beautifully drawn and exquisitely rendered, it could not fail to charm. In execution, however, it falls short of its promise. It was the blowing up of the United States battleship "Maine" in Havana harbour on February 15, 1898, that precipitated the Spanish-American War. It was thought at the time that the explosion was caused by the Spaniards, but it is now generally attributed to internal combustion. The blowing up of H.M.S. Bulwark during the present war is a similar occurrence.

## CORRESPONDENCE.

### *Air Raid Casualties.*

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—The Committee on War Damage are anxious to present to the Government returns of casualties which have resulted from the enemy raids by aircraft and bombardment. The returns are from areas having a population of more than 1½ million. We shall be obliged if you will publish this letter that town clerks and clerks of urban and rural areas which have been attacked, and from which returns have not been received, may know that returns should be sent to our Honorary Secretary, Mr. W. H. Southon, 40, Chancery Lane, London W.C.2. The particulars included in the returns are—1, date of each attack; 2, number killed; 3, number wounded; 4, estimated cost of making good damage to property. Information is also desired of cases where there were attacks and no material damage done.

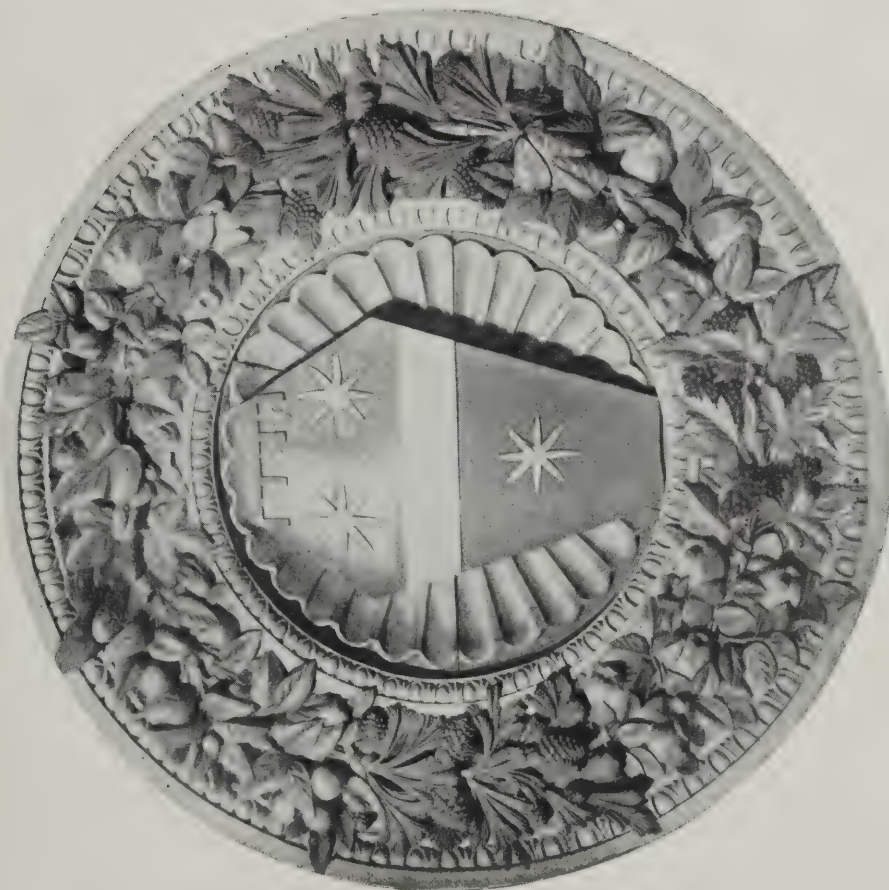
MARK H. JUDGE, Chairman.

7, Pall Mall, S.W.1. October 8, 1918.





Shield of the Doctors' Guild on the Church of St. Michael, Florence.

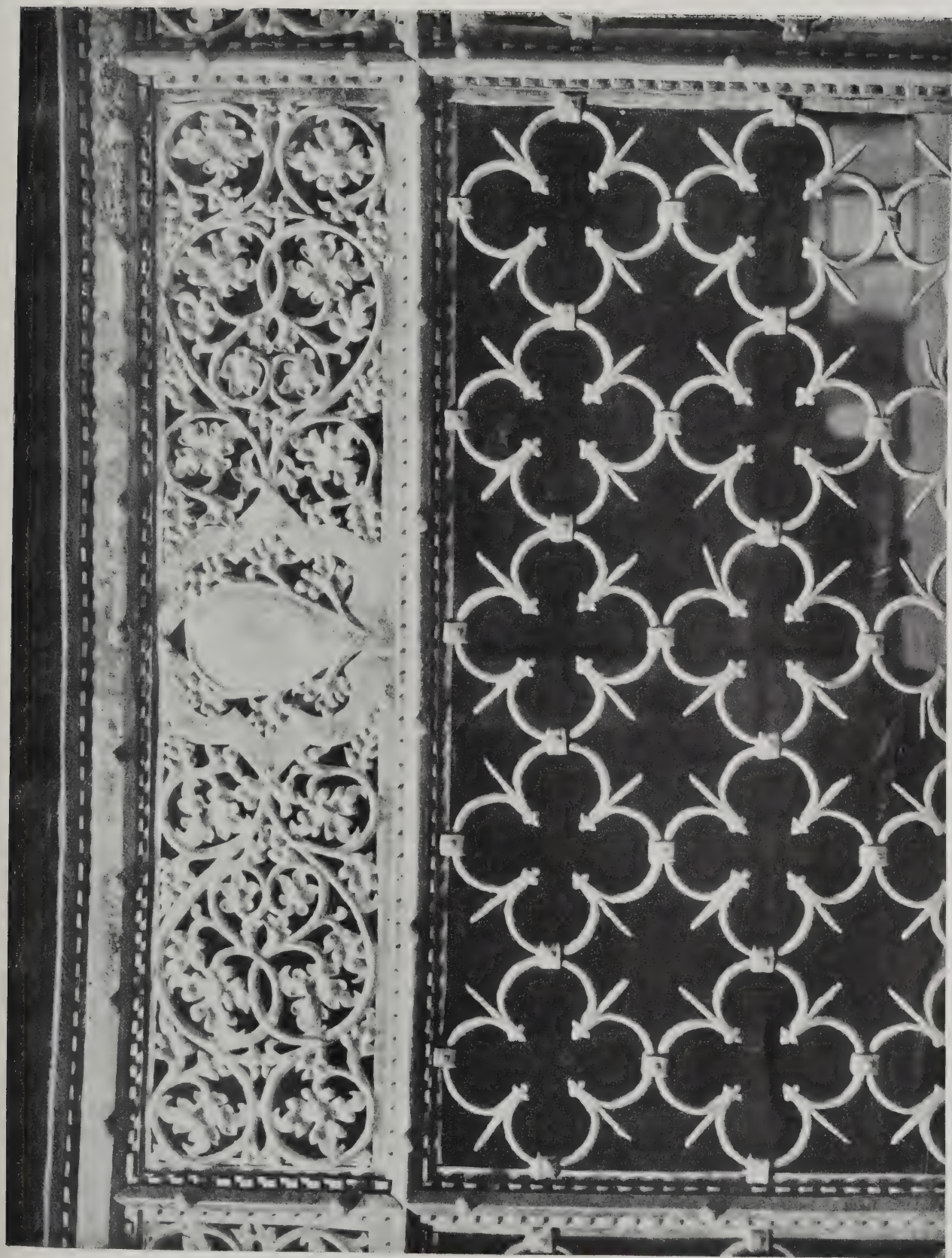


Coat-of-Arms of the Serristori, Palazzo Quaratesi, Florence.

DETAILS OF CRAFTSMANSHIP (SERIES, III.). XLI.—BY LUCCA DELLA ROBBIA.



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DETAILS OF CRAFTSMANSHIP (SERIES III.). XLII.—PORTION OF METAL SCREEN IN THE CHURCH OF THE HOLY TRINITY, FLORENCE.



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MONUMENTS. XLII.—THE "MAINE" MEMORIAL, NEW YORK.

H. VAN BUREN MAGONIGLE, ARCHITECT. ATTILIO PICCIRILLI, SCULPTOR.



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## A FOR COTTAGE BUILDING.

The following circular has been passed to members of the Society of Architects:

Some time ago, at the request of the Committee of the Privy Council on Science and Industrial Research, the Council of the Society submitted to that body a scheme of its proposals for research on the question of the greater utilisation of local materials in building construction. In this programme was under consideration by the Committee the housing problem became more acute, particularly with regard to the supply of cottages, and the Society was asked for the time being to concentrate its efforts in obtaining information from its members instead of dealing with the more elaborate scheme referred to.

The co-operation of the members of the Society is therefore invited in supplying information relating to local methods and building materials adopted and used in various parts of the country in connection with the construction and design of cottages, together with information as to the possibility of devising standardised structural units of local materials, and finding suitable local substitutes for such building materials as it is difficult or impossible to obtain at the present time, and which are likely to be scarce for some time after the end of the war.

The object in view is the effecting of economy in the construction and erection of dwellings and the eliminating so far as possible of transport and other difficulties which might hinder production.

The following may be given as examples of the data required:

Traditional methods of using and building pantiles or small waste slates, or roofing materials, which may have proved thoroughly reliable.

Methods of building walls with thin stone such as slate or flag stones, or rubble such as granite, ragstone, stone, etc.

Methods of using local waste materials for any of the purposes required in cottage building.

Particulars of any porous stones, or materials liable to sweating, and any local methods of avoiding the difficulties to which they give rise.

Methods of mixing and using local materials and cements which have proved reliable and reliable for any purpose.

Local materials other than sand which have proved valuable as aggregates in mortar.

Methods of using combinations of materials: Brick and stone, brick and rubble with concrete dressings, etc.

Methods of using new materials or methods of using old materials, likely to prove valuable either locally or generally for cottage building.

It will be convenient if the information furnished to any matter can contain the following particulars and be given under the following headings:

Exact description of the material, or method of using a material, or both, in each case may require.

Locality where the material is found and where the method is employed.

The experience on the strength of the material or the reliability of the material or method recommended is based.

Any suggestions as to the extended use of new uses as to material or method of construction.

Pre-war cost of material or method, or known.

(6) Any other information or observations.

It is requested that this information be sent to the secretary not later than one month from this date, and that members who may not at the moment be able to give the information but are desirous of co-operating with the Society should communicate their views on the subject to the secretary.

The reasonable out-of-pocket expenses incurred by members in obtaining the data will be refunded by the Society, provided the cost does not exceed in any individual case an amount to be previously sanctioned by the Council of the Society.

C. MCARTHUR BUTLER, F.C.I.S.,  
Secretary of the Society.

[For comment, see Editorial pages.]

## BOOK NOTICES.

*History of Everyday Things.*

The "History of Everyday Things" was dealt with at such length in "Here and There" a fortnight ago, that but little need now be said about this remarkable contribution to educational literature. Education, primary, secondary, and tertiary, is notoriously less efficient than it might be made, and one reason of its comparative failure is the tendency to offer airy abstractions to the young mind avid of actuality and therefore keenly interested in Everyday Things.

It is unreality, detachment and remoteness from present and living interests, that makes any sort of study sterile and repulsive. Yet, no matter how remote in time the subject may be, it shall be made attractive if you can connect it to living interests, if you can excite and gratify curiosity about it. Teaching is admittedly a difficult art, and one in which few

indeed excel. Fundamentally, it is perhaps less an art than an intuition of those who have kept the child-mind fresh within them, and who therefore, being sensitive and sympathetic, understand intimately, and are instantly responsive to the youthful outlook, and know instinctively what the young mind is willing to accept or reject.

Mr. and Mrs. Quennell have evidently in a high degree this sympathetic understanding of the youthful mind; for they have produced a history book that will fascinate children of all ages, from eight to eighty. Homely household words take the place of the stilted jargon that, from bitter experience, one expects to find in history books; and the subjects upon which most is said are those implied in the title. Mere political persons and events, accessions, depositions, battles, and the like are gathered together in what may be regarded as a series of scrap heaps—that is to say, chronological tables—to be raked over by anybody in whom a morbid fancy that way has survived the exhibition of things that matter infinitely more—the Everyday Things to which Mrs. Quennell has lent the enchantment of her brush. Nothing more charming in the way of book illustration has ever been done, and the pictures alone would ensure a distinguished success for this most opportune book.

"A History of Everyday Things in England." Done in Two Parts, of which this is the First (1066-1499). Written and illustrated by Marjorie and C. H. B. Quennell. Containing 200 pages, including 86 illustrations specially drawn by the authors and reproduced in line and half-tone, also five Coloured Plates showing the Development of Costumes. Price 8s. 6d. net. London: B. T. Batsford, 94, High Holborn.

*Manuals of Magnetism and Electricity: New Style.*

Science teaching in schools and institutes is not only becoming more common,



THE GREAT HALL OF THE 12TH CENTURY.

(From "A History of Everyday Things in England.")



but is taking a more practical turn; and the recognition of its utility and of its necessity is more general and more clear. This movement is naturally reflected in the textbooks that are being published concurrently with it, but (for obvious reasons) not as yet in sufficient numbers to meet the rapidly growing requirements. Good elementary books are specially desirable, but their production is too seldom thought worth while by those whose qualifications entitle them to a hearing in the more advanced stages. Yet, as every educationist knows, as well as every builder, it is of the utmost importance that the foundations should be well and truly laid. Educationists know, also, that this work is too often left to incompetent hands, and that the effects of faulty initial teaching are often observable throughout a student's career. A bad start is equivalent to a handicap penalty; while, to change the figure, a good introduction may make a career.

A good introduction to electrical science is furnished by Mr. A. Risdon Palmer in his two excellent little books, "Magnetic Measurements" and "Electrical Experiments." In each of these small volumes sound instruction is conveyed on sound methods—that is, by means of experiments in which the pupil takes his full share, and from which working principles as well as abstract theories can be deduced. It need not be said that information acquired in this way is much more pointed and infinitely more durable than that imparted orally or in a text-book that contains nothing more practical than information and advice conveyed in the customary conventional style, and beginning and ending with words. In Mr. Palmer's booklet on magnetism, each chapter is divided into three parts; the first containing suggestions for experiments, the second giving brief details of theory and showing (where necessary) how the more important formulæ are arrived at, and the third comprising illustrative examples, and a number of arithmetical questions "designed to test students' grip of the principles discovered from the experiments and elucidated by the text." Students will revel in the "Electrical Experiments" detailed in the booklet bearing that title. They are kindergarten work for children of an older growth who study technics, and they do not involve the use of elaborate or expensive apparatus. In fact, any fairly dexterous and ingenious youth may easily make his own, and will be all the better, as well as all the happier, for going to this trouble. We can cordially commend both these booklets for their conformity to the newer and more practical methods of education. If our country is to prosper, and to make a complete recovery from the effects of years of wasteful warfare, our educational methods must be direct and economical. Above all things, our youth must be taught to think and to work scientifically, to make the most of their mental energy. These little books have exactly that tendency.

They are very pleasant to handle and to look at, the flexible covers being grateful to the touch, and the lettering on them very neat; while the typography of the text is equally good. We are glad to notice instances of careful attention to "get-up" in technical manuals, because we are convinced of its exemplary value.

Magnetic Measurements and Experiments (with Answers). By A. Risdon Palmer, B.Sc., B.A. London: Thomas Murby & Co., 6, Bouverie Street, Fleet Street, F.C.4. 1s. 6d. net. Electrical Experiments. With fifty-two diagrams and full details of Apparatus and Methods of Procedure. Same author, publisher, and price.

## SOCIETIES AND INSTITUTIONS.

### *The University of Liverpool: Department of Civic Design.*

The courses of instruction in the subjects of town planning and housing, Session 1918-19, began on October 8. The Liverpool Department of Civic Design offers facilities for studying these pressing problems by means of a well-equipped library, which includes all current literature bearing on the subject, and courses of lectures, which cover every aspect of the subject: economic, sociological, architectural, landscape, engineering, and legal.

The first part of the course, leading to a certificate, includes the autumn and Lent terms of this session, and aims at giving a general outline of the subject, accompanied by practical examples worked out by the student. The diploma, which may be taken at a subsequent session, is concerned with original design and advanced study.

For the past two years the subject for the Lever Prizes (open to all students in the Department) has been a "Reconstruction Study of an Existing Town." By dealing with an actual example, the student is brought into contact with the manifold and inter-related issues involved. A full description of this study, which was awarded first prize in 1916-17, will be found in the "Town Planning Review" (the journal of the Department) for April, 1918.

The Department has recently removed to new quarters at 61, Ashton Street, opposite the New Arts wing of the University, and ample accommodation will there be found for studio work and private study and research.

The composition fee for the certificate course is £6 11s. This includes the following lecture courses: (a) "Outlines of Town Planning and Housing," by Professor Abercrombie; (b) "Civic Engineering," by Sydney A. Kelly, F.S.I.; "Civic Law," by H. Chaloner Dowd, B.C.L., barrister-at-law; (d) "Landscape Design," by Thomas H. Mawson; also the use of the studio.

Further particulars as to hours of attendance, etc., may be obtained from Professor Abercrombie, 61, Ashton Street, Liverpool.

### *Trades Training Schools.*

Excellent educational work is being done by the Trades Training Schools, 155, Great Titchfield Street, W.1, which were instituted for the purpose of enabling boys to become efficient craftsmen in the various skilled trades connected with the building industry. The training is conducted under the able direction of Mr. Banister Fletcher, F.R.I.B. F.S.I., who will be pleased to welcome new recruits. It is interesting to learn that the Worshipful Company of Carpenters hopes shortly to have a number of disabled soldiers and sailors at the schools for training purposes.



THE AISLE OF A MONASTIC CHURCH (12TH CENTURY).

(From "A History of Everyday Things in England.")





## WAR BUILDINGS SECTION

### THE NATIONAL KITCHEN IN HOUSING SCHEMES.

BY W. E. WHYTE, District Clerk and Treasurer for Hamilton and Divisional Director for Scotland of the National Kitchens Division.

THE movement for the establishment of National Kitchens is steadily gaining ground. While the war was, and is, the immediate consideration in the minds of local authorities and the public in approaching the question, a broader conception of what this feature of communal work may accomplish is rapidly spreading throughout the country.

The saving of food—or, rather, the avoidance of waste; the saving of labour, the supply of wholesome, well-cooked food, the limitation of charges, while they are equally important at all times. These are equally important at all times. These are equally important at all times. These are equally important at all times.

Special Governmental Committees have been set up to consider particular features of the new housing schemes to be launched, their field of inquiry embracing questions connected with types of houses, materials to be used, lav-out, etc., and men's committees have been appointed to suggest ways and means for improving working arrangements in working-class houses and the saving of labour. Probably in no better way than in the establishment of national kitchens can we be in connection with the household saved. Not only so, but fuel can be conserved, smoke minimised, and good wholesome food supplied at prices which favourably compare with the average household expenditure in this connection. The immensity of the housing question suggests that there is here a field for the national kitchen which as yet has not been untapped. England and Wales require some 500,000 new houses after the war; Scotland requires probably 200,000.

#### *The Local Authorities.*

The principal agency to be used in the provision of these houses is the local authority. The new schemes are to be formulated on town planning principles; the old ideas are to be scrapped and model colonies and villages, well spread out on the land, and with lots of open space, are to be features of the house-building of the future. Why should not these new schemes include the national kitchen as an integral part of their conception? Of a certainty such provision would be enthusiastically welcomed by the housewife; and who is more entitled to be considered in connection with the working arrangements of a house?

The possibilities of the introduction of kitchens cannot be gauged. They will, as already indicated, save labour and make for economy; they will be the means of avoiding waste, and in many other ways they will add to the attractiveness and utility of the new housing schemes. They will do more; they can be the medium for improving the health of the people by supplying them with wholesome, well-cooked food, and they can be the means of educating the people in cookery. Training in cookery and domestic science could be undertaken at the National Kitchen, which could be run for the benefit of the district or village—any profits being available for the improvement and embellishment of the village, or for some other useful local purpose. The management might be entrusted to a local committee, and in this way local interest would be obtained and close supervision and direction ensured.

#### *Public Health Work.*

Again, child welfare and maternity schemes are being speedily set up throughout the country. Improper feeding, ignorance of cooking and domestic science are

rampant. Impoverishment of mother and child are among the most common causes of ailment and improper development. By means of national kitchens and the supply of wholesome food regularly, an immense improvement would be effected in this sphere of public health work. Industry, and the workers in industry, would also immeasurably benefit. The nation realises in greater measure now than ever before how essential it is to have a healthy race. Every effort and every agency which can aid in securing this is to be welcomed. The race cannot be fit if it is not properly fed, and assuredly the national kitchen can do much in securing the proper feeding of the people, while at the same time, as an economic proposition, it is soundness itself.

It is for consideration whether the Government should not advise local authorities to take into consideration, in the formulation of their new housing schemes, the inclusion of a national kitchen. If the Government are to contribute part of the cost of the schemes they should require local authorities to have due regard to the great benefits which not only the citizens, but the nation, may secure by means of a well-ordered arrangement for supplying proper and wholesome food for the people. The national kitchen can fulfil this desideratum and will unquestionably do much towards making for success in any model scheme of housing that may be undertaken in the days after the war.

[Mr. Whyte makes out a very strong case. In theory it is irrefutable, and the enthusiasm with which it is stated is contagious. But the people have yet to be converted. An equally good case was made out for public baths and washhouses, which, for the multitude, exist almost in vain. National Kitchens should be more successful.]



## SPECIFICATIONS FOR PAINTERS' AND DECORATORS' WORK.

BY ARTHUR SEYMOUR JENNINGS, F.I.B.D.

(Continued from page 128, No. 1236.)

### ALTERNATIVE.

63. *Flat Enamel Finish*.—The coats of oil paint to be given mixed as above described under the head of "Three Coat Work." A finishing coat of flat enamel to be given over the whole surface applied to give a uniform surface free from gloss.

### ALTERNATIVE.

64. *Enamel Finish*.—The work is to be brought forward as before, but the finishing coat is to be glossy enamel of approved colours.

65. *Selenitic Plaster*.—This plaster, and others of a similar character, which set with a highly polished surface, are to be treated as follows: A coat of lithopone or white lead mixed with 85 per cent. turpentine and 20 per cent. raw linseed oil is to be applied just as soon as the plaster is sufficiently set to withstand the pressure of the brush. No time whatever is to be allowed between the plastering and the painting on of the first coat excepting that stated. After forty-eight hours the coat of sharp paint thus applied will have been absorbed by and form part of the plaster and will give a key upon which either of the finishes above described may be successfully applied.

### METALS.

66. *Iron*.—All new iron and steel work is to be primed at the foundry with a coat of red lead and boiled linseed oil. Railings, down pipes, crestings, and ironwork of a similar character to have a coat of pure red lead mixed with 80 per cent. raw linseed oil and 20 per cent. turpentine. Apply this either (a) three coats of red lead with the addition of sufficient black in the finishing coat to produce a chocolate colour, or (b) iron oxide paint containing at least 70 per cent. of ferric oxide, or (c) basic chromate of lead, to which is added a little lamp black, or (d) graphite paint of approved brand. The final coat in each case is to be mixed with 10 per cent. of good copal mixing varnish.

67. *Proprietary Paints*.—Instead of either of the above, the use of proprietary paints specially made for application to ironwork may be preferred, and in that case the brand desired should be stated, and the method of application, as well as the undercoats, be done in accordance with the manufacturers' instructions.

68. *Repainting Iron*.—Before repainting ironwork all rust and scale and loose paint is to be entirely removed by means of steel wire brushes, hammer and chisel or other means. All oil, dirt, etc., must also be removed. A perfectly clean surface having been obtained, the painting can proceed on the lines described under the head of "New Ironwork."

69. *Galvanised Iron*.—All galvanised iron is to receive a coat of a solution made by 8 oz. of copper acetate in one gallon of water. After forty-eight hours apply a coat of pure red lead, mixed with raw linseed oil and turpentine in equal proportions. Finish with one or two additional coats of approved colour.

### ALTERNATIVE.

70. Instead of the copper acetate apply a full coat of outside washable distemper. Upon this apply two coats of oil paint, or

one coat of paint, and one of hard-drying outside varnish. If the latter is used red lead must not be employed on the underneath coat.

71. *Copper*.—Although copper is not usually painted, occasions for painting it may arise. Remove every particle of grease and dirt by a thorough washing of the surface with benzol or benzine. Then apply a coat of red lead, mixed with equal proportions of raw linseed oil and turpentine. One or more coats of oil paint to be given to approved tints.

72. *Zinc*.—The surface of galvanised iron is zinc, and the method of painting sheet zinc is the same as that described under that head.

73. *Tinplate*.—The surface to be rendered perfectly clean by washing with benzol or benzine. One coat of red lead is then to be applied mixed with 60 per cent. of raw linseed oil and 20 per cent. of turpentine. This to be followed by one or more coats of oil paint.

(To be continued.)

## NEWS ITEMS.

### Trade Scholarships for Boys, 1918.

The London County Council offers about 260 trade scholarships to boys between the ages of 12½ and 16 years whose parents are resident in London. The scholarships provide free education (with maintenance grants ranging from £6 to £15 a year) for one, two, or, in certain cases, three years at trade schools approved by the Council. The instruction provided at these schools is designed to enable boys on leaving school to take up either apprenticeships or employment in skilled trades. Instruction is given in motor-body building, the engineering and allied trades, building trades, furniture and woodwork trades, book production, silversmithing, photo-engraving and photo-process work, professional cookery (to train boys as chefs), and professional waiting (to train boys as waiters). Application forms (T.2/258) and full particulars of the scholarships may be obtained from the Education Officer (T.2), L.C.C. Education Offices, Victoria Embankment, W.C.2, to whom all applications must be forwarded not later than Saturday, October 12.

### An Exhibition of "Key" Industries.

By permission of the Ministry of Munitions, an exhibition of new British and "Key" industries, organised by the Industrial Section of the Tariff Reform League, is now being held at the Central Hall, Westminster. The exhibition will remain open until October 22, after which it will be shown in Manchester and other leading provincial centres. The object of the exhibition is to illustrate the facts respecting the more important of the so-called "key" or "pivotal" industries recommended for special treatment by the Government Committee on Industrial and Commercial Policy after the War. The committee have secured the active co-operation and assistance of the most important firms interested in the industries concerned, many of whom have generously contributed valuable exhibits and expert information. The exhibition also includes a very remarkable collection of photographs and diagrams. All interested are invited to communicate with Mr. Edward J. Duveen, chairman of the Industrial Section, Tariff Reform League, 7, Victoria Street, London, S.W.1.

## COMING EVENTS.

FRIDAY, OCTOBER 18.

Institution of Mechanical Engineers General meeting. At the Institution Civil Engineers, Great George Street Westminster, at 6 p.m. Papers will read as follows: "A Law Governing Resistance to Penetration of Metals which are Capable of Plastic Deformation," a New Hardness Scale in Fundamental Units," by Professor C. A. Edwards; F. W. Willis, of Manchester; "The Value of the Indentation Method in the Determination of Hardness," by R. G. Batson; and "The Ludwik Hardness Test," by Dr. W. Cawthorne University F.R.S.

Royal Sanitary Institute.—Visit 2 p.m. to Messrs. Pilkington's Tile Pottery Company's factory, Clifton Junction and meeting, at 6.30 p.m., at College of Technology, Manchester, where a discussion will take place on "Work in Factories and Workshops" opened by Professor J. Radcliffe M.Sc.Tech., and Miss Ethel B. (welfare secretary, Messrs. John B. and Brothers, Rochdale). Chair taken by Dr. Philip Boobbyer, M.S. (M.O.H., Nottingham).

## ENQUIRY ANSWERED

### Concrete versus Brick.

F. T. writes: "Please say whether cheaper at the present time to erect outer walls of a block of offices at 100 ft. long by 40 ft. broad by 35 ft. in concrete, reinforced with a suitable on the site, or in brick, at ordinary price in a large town. The building would be simple in character."

—Before the war reinforced concrete was a great deal cheaper than brick for such a building, and, moreover, has the merit of occupying less space than brick walls.

At the present moment I am inclined to think that the concrete work will be found to be the cheaper, comparatively, though a very great deal depends on the ease with which material can be obtained upon the particular site. In some parts of the country it is now impossible to get brick at all!

Mr. T. Potter's book on "Building Small Holdings," published by Batsford, at, I think, 3s. 6d., would be useful to F. S.

## OBITUARY.

### Mr. Cecil C. Brewer, F.R.I.B.A.

A note on the late Mr. Cecil C. Brewer (of Smith and Brewer), who died August 10, will appear next week.

### Mr. B. R. Penderel-Brodhurst

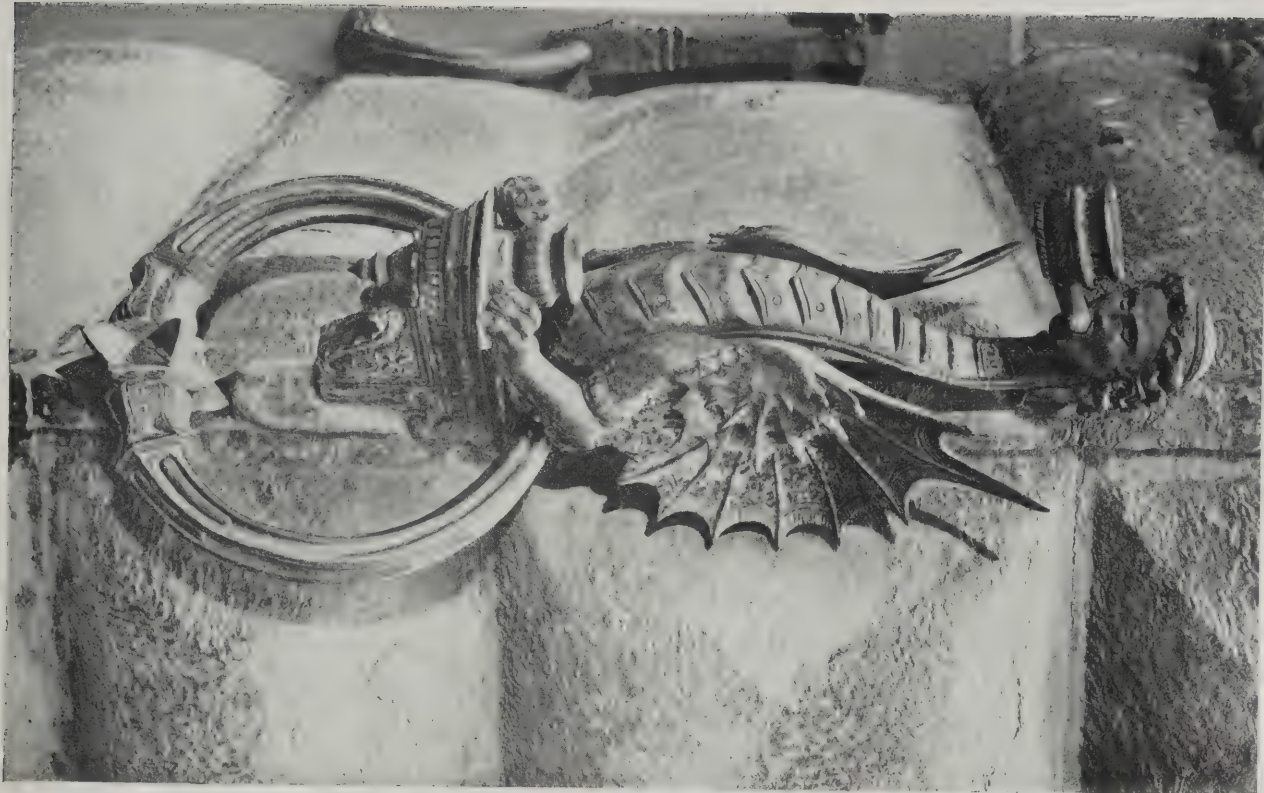
We regret to record the death in 1918 of Mr. Bernard R. Penderel-Brodhurst. He was the only son of Mr. J. Penderel-Brodhurst, editor of the "Architectural Review," and before the war was an assistant in the office of Mr. Mervyn E. Macaulay, F.R.I.B.A. He was a highly talented architectural draughtsman and contributed many fine drawings to the "Architectural Exemplar" series in the "Architectural Review." By his death architecture loses a devotee of the most brilliant promise.



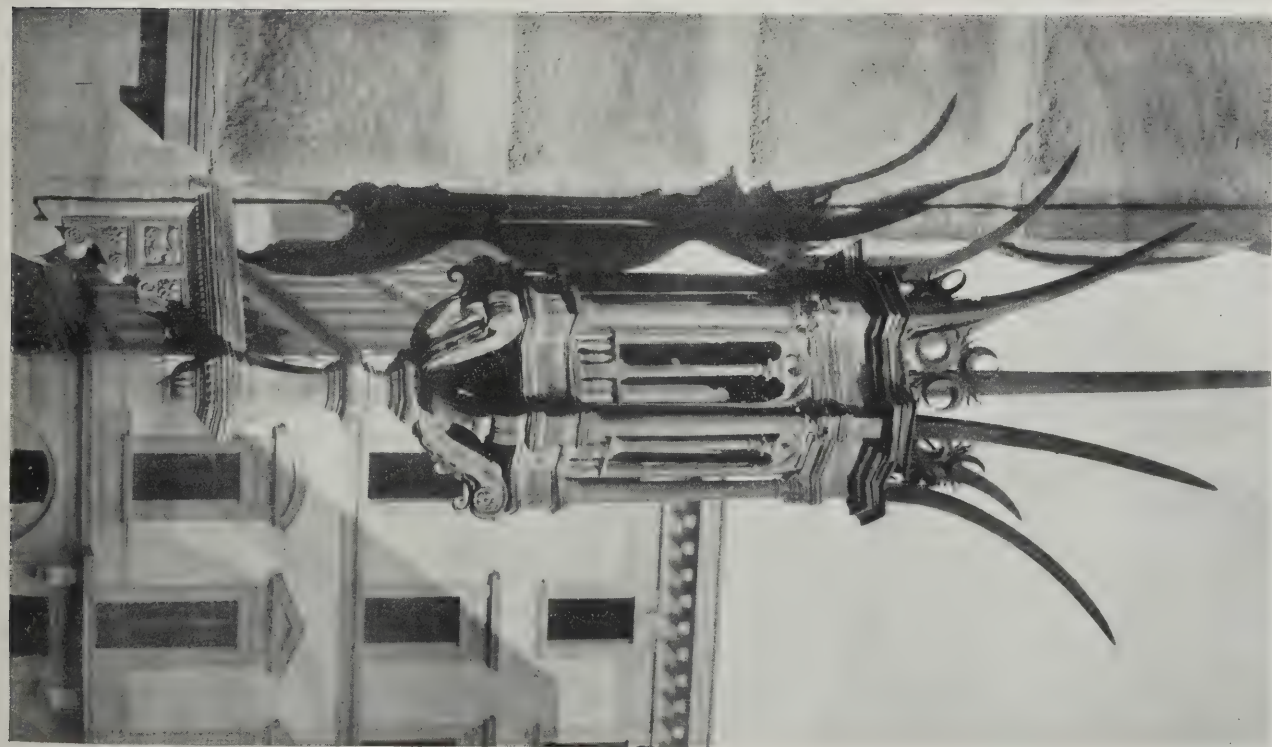
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Supplement to "The Architects' and Builders' Journal," Wednesday, October 16, 1918.



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# THE ARCHITECTS' AND BUILDERS' JOURNAL.

OCTOBER 23, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1242.

## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in saving the efforts of the Government Paper Controller to eliminate waste. This they may do in one of two ways—*

*By placing a direct subscription for the Journal at the Publisher, or*

*By placing with a newsagent an order for its regular delivery.*

To instruct the public in the principles of architecture and housing is an obligation that circumstances have laid on the architect. He is of course not bound to do it, but the action is greatly to his credit, for it is a public service and is in train for the advancement of amenity. It is to be noted that in the architect lectures and gets reported, he greatly increases the force and reach of his pleadings. In the first place, his audience, though it may be small, is usually special and influential, and it will freely act upon the information that it has in the trouble to seek personally. Then, if the lecture is reported, it gets a wider if less earnest attention.

Next, it may be thought worth while to reprint the report in leaflet or pamphlet form, when its influence may be yet further extended through the citation given it by reviewers. This sequence is illustrated by the lecture on "Housing of the Working Classes," delivered by Mr. Reginald T. Longden, architect, before the Leek Trades Council. It has at length reached us in pamphlet form, and we sustain the pilgrim and speed him on his mission. We are glad to see that Mr. Longden strikes at the heart of the trouble about housing. "In the past," he says, "in Leek as everywhere, the sole idea, due to no doubt to poor rates of wages, has been the provision of the cheap cottage. Let us look at the result. The tenant, tied by what he presumed was a proportion of his income as rental, has had to provide for his wife and family in what the average provider of the commodity thought that tenant was entitled to. A few years ago, then, what happened? A speculator—I say it without any disrespect to his business capacities—bought a site. He arranged to build as many houses as possible on it to reduce to himself the site value of each. Every antiquated house of the Local Government Board had also to be built and deliberately fulfilled, and the result is what we see to-day in every town in the country—rows of houses, the back extensions of which baffle the entry of every ray of sunshine into the living-room, and the poor design of which is, in most cases, sordid and boring monotony."

So many such houses being already in existence, it is more incumbent on us to see that the number is not increased in the haste to make up arrears. Putting aside the wage question (which, after all, is a hard story), Mr. Longden shows how economy can be secured without detriment to the dwelling. In one word, an all-round observation of the principle of economy is to effect a considerable saving. Less money should be spent on roads and paving. Roads should have a lighter kerb, with grass margin. For the customary heavy kerbs and channels and geometrical flag paving there would be substituted "a

reasonable type of construction, suitable to meet all requirements, and more artistic in itself as an adjunct" to a housing scheme, in which everything unnecessary is to be provided, and everything unnecessary eliminated. That is a very excellent theory, but the great difficulty will arise in determining what is and what is not necessary. Sewers also are to be of lighter construction. There is, we think, much in this theory of lightening the loads that a house now bears, and it should include the burden of the rates and the load of iniquity imposed on the land in the form of legal expenses of transfer or other transaction. War-time exigencies have shown us that there are innumerable things that we can do without, and that occasionally we are the better for the abnegation; may it not well be that there are things "on, in, or about" a house that will be found on close inspection to be perfectly superfluous? Not so very long ago, when as yet bending and breaking moments had not been very closely approximated, and when, indeed, the real science of building construction had not been established, scantlings of twice the necessary size were generally employed; and careful examination may now reveal other avoidable extravagances. Some of the old and heavy materials of construction might profitably give place to lighter substitutes; and Mr. Longden himself seems inclined to hold, for example, that concrete products are destined to supersede the ordinary and conventional materials of construction.

\* \* \* \*

Mr. Goodhart-Rendel's first article, in the "Architectural Review," on the Brighton churches has, the editorial secretary informs me, drawn from Mr. Somers Clarke a most welcome letter, written in Egypt. Some of Mr. Clarke's finest work is in Brighton churches, and his reminiscences of church building in the town are excellent reading. As his letter is to appear in the forthcoming issue of the "Architectural Review," one may not forestall it here. It ends rather characteristically: "What a curse to architecture is 'Style,' so called!" This is a note of challenge that will stir up less contention than it would have done a decade ago, when "The style is the man" was a favourite quotation, and when "style is everything" was a besotted extension of it. We are not quite sure what Mr. Somers Clarke means by the expression, but we will hazard a guess. By "style" he probably means the very opposite of "individual style"—he means, rather, we are inclined to suppose, a manifestation of the gregarious instinct which leads to writing, dressing, building, in slavish accordance with an accepted convention, or with some current fashion, to the suppression of individuality and initiative. For expression in one's own style, and close adherence to a style that is markedly impersonal, are opposite conditions. As to which of them Mr. Clarke refers as "the curse of architecture" there can be no doubt.

\* \* \* \*

He is himself an artist of strong individuality, disciplined by scholarship. In the third of the articles on the churches of Brighton and Hove, which appears in the current issue of the "Architectural Review," that for October, Mr. Goodhart-Rendel



describes the church of St. Martin, of which Mr. Somers Clarke was the architect, as an impressive design. "Internally, the harmony of the sumptuous decorations is complete. Every window has stained glass, admirable in its consistency throughout the building. The nave ceiling is gorgeously painted with heraldic devices; the altar wall is nearly covered with pictures framed in gilded tabernacle work; the spire of the pulpit canopy soars up to the roof; font, rood, and stalls, are all worthy of their places." Concerning the architect, Mr. Goodhart-Rendel says that "never was this admirable artist more successful." An elevation and two interior views fully justify the conclusion that the architect is an admirable artist. In the same number there are also illustrations of beautiful work by those other fine artists R. H. Carpenter, John L. Pearson, and Sir William Emerson. On the whole, Brighton has been extremely fortunate in its church builders; a singular exception, to which Mr. Somers Clarke refers in his letter, being a church on which no architect was engaged. It was simply put up by a builder, who, left to his own devices, ought to have evolved a masterpiece. His performance, however, did not support the contention of those who hold that architecture would be great if it were not for the architects.

\* \* \* \*

Reparations at St. Paul's Cathedral have now reached a definite stage after five years of work following investigations that revealed considerable grounds for anxiety. Particulars are not yet available, but it is understood that a marked tendency of the cathedral to slip its moorings and glide down to the Thames (incidentally simplifying the St. Paul's Bridge site problem) has been effectually checked. Canon Alexander's reference to the work that has been done does not overwhelm us with highly technical detail. "Since we started," he said, "our efforts have been almost entirely directed to restoring the most critical part. It was so badly shattered that we have had practically to rebuild it. Now we are starting on the south-east pier." He was more definite on the subject of cost. Originally the estimate was £70,000, but the heavy increase for materials and labour will bring up the figure to the good round sum of a hundred thousand pounds.

\* \* \* \*

Douai has suffered worse than Lille at the hands of the Germans, who fired the former town on the very day when they were asking for an armistice. They are certainly an extraordinarily clumsy and tactless folk, foredoomed to blundering futility. Douai, which of course gave its name to a famous version of the Bible, is a centre of the coal and iron industry; and, in view of the prospective canal developments in our own country, it is interesting to recall that Douai depends chiefly on its waterways for transport. Up to the time of writing this, there had been no reassuring news that its great buildings had come scatheless through the ordeal by fire. Hope is ardent that at least the Grand Hôtel de Ville and the twelfth-century church of Notre Dame have been spared. Lille, one of the chief manufacturing centres of France, did not, nevertheless, neglect art, science, or learning. It has a university, a Pasteur Institute, and, in its Palais des Beaux-Arts, which was built in 1892, had one of the finest collections of pictures in France. As might have been confidently anticipated, these have all been looted long since—the building has been stripped bare.

\* \* \* \*

Now that the Germans are being rapidly driven out of France and Flanders, reconstruction, or at least the provision of temporary buildings, becomes

an urgent proposition. Many towns and villages have been reduced to ruins; and for the inhabitants who, as the war correspondents tell us, are rapidly swarming back to them, it will be necessary to provide shelter. There will at once arise from the debris a collection of shacks and shanties of almost as primitive and uncouth a character as the improvisations in the mushroom mining "cities" of the fever days. There will be an immediate demand for those standardised hutments of which the proponents are easily portable, and can be put together with such speed that two or three men can build a large hut in three or four hours. It is to be feared, however, that the supply of such buildings will be greatly inferior to the rapidly expanding demand. All the materials of rapid construction will be urgently required, and concrete-block making machines would seem to have a special mission in this field.

\* \* \* \*

The late Mr. Cecil Claude Brewer, F.R.I.B.A., whom an affectionate memoir by his friend and partner, Mr. A. Dunbar Smith, appears in the last issue of the "Architectural Association Journal," seems to have been endowed with an uncommon measure of the Greek spirit, and with the fairy gift of perpetual youth. Mr. Dunbar Smith met him first in the office of Mr. F. T. Baggalay, in 1890, and recalled that "at this time, as later, he was remarkable for extreme youthfulness of appearance that contrasted strangely with the ability, keenness, and self-confidence he displayed. Full of high spirits and ready for any fun, he took—I think I am right in saying—a girl's dancing part in one of the A.A. plays, while later he danced in the Art Workers' Guild Masque." This was all in the Greek spirit; and it was his love of Meredith, Kipling, and Stevenson, of the Attic flavour of Meredith and Stevenson that is no question, while Kipling knows how "Odysseus smote his bloomin' lyre." He was a lover of music and had a very pretty knack in it, usually returning from a holiday, as Mr. Dunbar Smith tells us, with a number of charming water-colour drawings. When he won, with some measured drawings of St. David's, the A.A. Travelling Studentship, he went to Brittany, where he made drawings that won him the Pugin Prize. Later, the Godwin Bursary enabled him to visit the United States and Canada, where he took notes for his influential report on Museums and Picture Galleries. He held also the Donaldson Medal in Fine Art. His love of art, and his keen desire to promote the love of it in others, led him to become the first secretary of the Junior Art Workers' Guild, and later to become an active member of the Senior Guild. For many years he acted as one of the editors of the A.A. Sketch Book, and he was keenly interested in the art of calligraphy. His architectural work, done in partnership with Mr. Dunbar Smith, includes the National Museum at Cardiff, Wales, the Passmore Edwards Settlement at Bloomsbury, the Albemarle Club in Dover Street, the Epsom Anglia Sanatorium, and various country houses. Another memoir of him in the same issue of the "Architectural Journal," "H. M. F." records that Brewer's "great natural gifts were enhanced by his extraordinary thoroughness and power of application. His early association with the Arts and Crafts movement led him to acquire an intimate knowledge of all the trades and crafts connected with building; but his mind was of too definitely architectural a bent to leave him content with craftsmanship as an end in itself, and in later years he inclined more and more to the large view of architecture as a matter of fine planning, ordered massing, and intellectual expression." What is but to say that the Greek spirit grew stronger in him as he grew older. Alas that he should have died at the age of forty-seven!



## HERE AND THERE.

TRAVELLING Exhibitions, no matter in what sense the expression is construed, seem born for high emprise. Those awarded by the professional and educational organisations are of demonstrable value; and those others, in which the exhibition is more than a conventional phrase—is a play of goods and/or a demonstration of processes have indeed done yeoman service: have done it really in those instances in which the show was not a travelling circus nor a boxing booth, but a scientific exposition of dairying, or of genetical farming. For many years the Royal Agricultural Society, and its English namesake, have held annual exhibitions in various parts of the kingdom; while propaganda by aviation is an idea that, in war-time, the Government has not disdained to adopt.

Has it neglected the less vagrom method of travelling by train from centre to centre various kinds of educational collections. Whether the travelling be by road or by rail, this is obviously a most effective method of spreading education. It is, in a sense, an extension of the Universities Extension Movement: which, again, was a development of the old schoolmaster's itinerary method. There can be no question that the system, properly conducted, is very effectual. We had fallen far behind Denmark in dairying, and should have lost the industry but for the travelling demonstrations of improved methods; while agricultural machinery would have made but slow way in this country but for the exhibitions at which it could be seen in motion. I remember seeing, many years ago, at one of the Royal Agricultural Society's shows, a steam digger that had in it some of the notions with respect to travelling over bad ground that have been adopted for the "tanks." If they were not on the point of being abolished, the steam shovel would entirely supersede the insignificant "trenching tool." No doubt all the armies are already well equipped with implements for mining and working with the utmost speed; and no doubt they will be in future used much more extensively for "peaceful penetration" of the soil. In digging foundations, for example, so ultra-primitive an implement as the shovel, with which, if we may credit John Adams, "Adam delved" when "Eve span," will be entirely superseded. Your only excavator will be a steam navy.

Travelling exhibitions of architectural drawings have been a customary during the past few years. There is very little need to commend them. Sauce for the goose is also sauce for the gander, and an exhibition that has been held in London should be sent on to Liverpool, or Manchester; and I would that Paris, Rome, and New York could be included in the itinerary. But peradventure a quick air-service for passengers will diminish distance and render the transshipment of drawings unnecessary. All who are really interested in architecture fly to see them, distance being no object. It is a sad fact that conveying an architectural exhibit by air should be so costly; and the extortionate charges of railway companies should receive attention as soon as the war is over, for it cannot be denied that heavy rates for the conveyance of British goods have in the past operated disastrously against the welfare of the traders. I see that there is large talk about a canal under the Thames at Gravesend to link up London and south, with new lines of railway making it as light and easy an excursion from Manchester to Ramsgate, or, I suppose, from Runcorn to Ramsgate, or Warrington to Worthing, or Huddersfield to

Herne Bay; or, for the matter of that, from Alliteration to Asininity. But it is certain that those railways will be made, and that, indeed, the whole country will be intersected, not to say criss-crossed, by more light railways or heavy, and that then the question of light or heavy fares will become acute.

One great advantage of all these light railways will be that no village will be remote from decency. All the villages will be brought to uniformity in that respect as well as in many others, including wages and the building by-laws. Architects will then cease to be worried by the anomaly that what is commendable practice on one side of the road is crime on the other. Builders will no more be vexed by the problems of walking-time: for nobody will walk when he can fly for a penny a mile at the rate of two miles a minute, or can come more tardily off by light railway with speed of only sixty miles an hour, at a halfpenny a mile, including the use of footwarmers. No need then for the workers to herd together in congested districts. There will be no congested districts. We cannot afford them, because we cannot afford to rear a C3 population. Of course, with all this railway construction there will not be wood enough for the sleepers. That does not matter. There is always concrete enough. At first neither will there be steel enough for the rails; but soon somebody will find a substitute for it, or a cheaper and quicker way of producing it.

There may be awaiting his opportunity—perhaps only his return to civil life—some young Bessemer, or Gilchrist Thomas, who will revolutionise the steel industry, and with it a good many other things. One reads with a wry smile that in September, 1873, the autumnal meeting of the Iron and Steel Institute, held in Paris, had on its agenda a paper on the elimination of phosphorus. "Originally it stood high in the list. But the pressure of business was great, and the names of unknown youths did not stir interest or attract attention. The paper mournfully sank to the bottom of the list, and was finally left unread for lack of time." Thomas's invention, however, was taken up at the Bolckow Works at Cleveland, where it was eventually found that converters lined with basic bricks to withstand high temperatures would produce steel from which the phosphorus was expelled. Thomas, like Bessemer, made a large fortune, which, however, he did not long live to enjoy—he died at the age of thirty-four. He had to fight in the law courts for his patent rights in Germany; which reminds us that when peace terms are being negotiated the flagrant dishonesty of German traders in pirating wholesale British and American inventions must not be left out of the reckoning.

At the Key Industries Exhibition—which is to be a travelling exhibition—now being held at the Central Hall, Westminster, there is very striking evidence of German activity in what I may perhaps be excused for calling the steal industry. Germany had gained monopolist control of the world's supply of wolfram ore, from which tungsten is prepared; and as tungsten is essential to munition work, and ours was in short supply, we were immediately faced with a difficulty that might have lost us the war, if our men of science had not promptly overcome it. What a careless people we are—I mean were; because the lesson of the war cannot have been left unlearned.

DIODENES.



## FLORENCE, AND THE FLORENTINE WORKMAN.

A COMPILATION BY G. LL. MORRIS.

*At a time when scientific management and quantitative production are regarded, even by Labour politicians, as the ideal for British Trade Unions, it is interesting to notice the contrast between this ideal and that of the mediæval and early Renaissance guilds. "The protection of a standard of excellence in craftsmanship was their vitalizing principle, and the nearer we approach this ideal the more we shall see the necessity for a revival of the guilds in their old form."*—"OLD WORLDS FOR NEW," BY A. J. PERCEVAL.

(Concluded from page 180, No. 1241.)

BY this time Florence was an important commercial centre, and the great ambition of the individual Florentine was to become and remain rich. As early as 1282 every inhabitant was obliged to subscribe his name on the register of one of the trade guilds, and no person was eligible for a public office unless he was actually or professedly a member of one of these guilds.<sup>8</sup> By this regulation, the nobility were either excluded from offices of the State or were obliged to become artizans, for it was deemed advisable, if not to take the Government entirely out of the hands of the nobles, then, at least, that on taking the privileges of the guild, the noble should lay aside part of the haughtiness derived from his own lofty title.<sup>9</sup> One of the first indications of Florentine activity in the handicrafts showed itself in the transformation of coarse textiles of other countries into things of beauty which were exported far and wide. This was the art of Calimala, which gave its name to a great staple industry, and formed the first in importance of the seven Major Guilds or Arti. The woolmakers who spun the raw wool from the sheep of the great Tuscan pastures, the silk weavers for whose benefit every peasant was bound to plant a certain number of mulberry trees in his garden, sent their fine cloths, velvets, silks, and richly fashioned robes to all parts of Europe and formed the guild of the wool-staplers. Banished Florentines returning from the East brought spices and drugs, and constituted with the surgeons the Guild of the Apothecaries. The Notaries were a fourth important company. Against the teachings of the Church, which declared any form of usury to be sinful, the occupations of banking and money-lending were first honoured as legitimate and useful trades among this people, whose constant excursions into foreign lands and cities gave them the idea of commercial enterprise on a large scale. The Guild of the Goldsmiths was the seventh of the Major Arti. It included many of the other crafts connected with the adornment of the churches, and at a late date was the technical school of the skilled craftsman in every form of handiwork. The members of these great guilds formed the *popolani*, the citizens with a voice in the affairs of State, as distinct from the *popolino* or mob. At a later period the chiefs of the Minor Arti—the bakers, butchers, masons, and carpenters—were admitted as citizens in the register, but there was a gulf fixed between the Major and Minor Arti. The former, indeed, constituted a kind of aristocracy, and all sons, nephews, and near relations of the merchant or master craftsman were excused fees and long apprenticeship. Government might be chaotic, but there were limits to anarchy. Every guild was a small Republic in itself, with a most stringent code of laws. Each was a tiny State within a State. In the streets the workman might be a turbulent partisan. In the workshop he was the servant of a hundred regulations, providing for every contingency. By equally solemn oaths he bound himself only to sell prescribed articles, not to use bad language, not to swear or entertain women, not to light up with anything but the regulation candles and lamps, and on no account to take sanctuary in a monastery with the money or

valuables of a patron. The minutest laws and regulations were in force. Everything was fixed and ordained, the amount of steel in a helmet, the weight and shape of chests and boxes, the size of card combs and dyeing buckets. The proud and free Florentine of this very aristocratic democracy allowed himself to be the object of a most minute surveillance, and, while obedient to his guild, was always ready to fight those above and below him.

The gulf between the Major and Minor Guilds was mainly due to their different interests. The Major Guilds were engaged in trade all over the East and West, and held in their grasp at the end of the 14th century the commerce, wealth, and government of the Florentine Republic.<sup>10</sup> They thought nothing of spending the wealth of the community on wars with surrounding cities, for the opening of new markets for their wool and silk, but were averse to luxurious living and lived at home in a frugal fashion. The Minor Guilds, on the other hand, consisting of linen-makers and mercers, shoemakers, smiths, salters, butchers and slaughterers, wine dealers, innkeepers, harrismakers, leather dressers, armourers, ironmongers, masons, carpenters, and bakers, were chiefly concerned with local trade, and heartily detested the opulent members of the greater guilds, whom they helped to raise to power, and who had subsequently excluded them as well as the nobles from the government. These men not only accumulated great wealth but constantly made new edicts against feminine luxury, forbade the use of gold and silver ornaments and prohibited all lavish expenditure. This was a thorn in the side of the Minor Guilds. To them it appeared more important that Florence should continually increase the number of her splendid palaces and villas with luxurious appointments than squandering the wealth of the Republic on wars with

10. Villari.



A FLORENTINE CAPITAL.

8. Roscoe.

9. Ammirata.



HEAD BY A FLORENTINE SCULPTOR.

or Milan.<sup>11</sup> These conflicting interests brought party hatred, and at a later date generated the strife rising towards the close of the fourteenth century. This continual antagonism between the master and minor guilds afforded the nobles an opportunity of seeking favour with the populace for their own ends, and eventually led to the downfall of the Republic and the rule of the Medici.

The labourer, who was unable through poverty to pay the fees of apprenticeship, could seldom hope to escape the hardship of his lot. Although the masters were obliged to fix a maximum wage, the artisans were often obliged to establish a minimum wage. The unskilled labourer in Florence, as elsewhere, was almost a negligible quantity, when initiative was required in the administration of the city. His weakness and dependence kept him subject. He starved, as he always had done, and always must do, without co-operation.

More than once during the thirteenth century the labourers tried to improve their lot by means of a strike. Once the rising of the Ciompi brought them a measure of success and temporary power, but they were ultimately subdued. Entire political and social subjection was the usual lot of the labourer, but he assisted in the building of Florence, and worked alongside the mason and joiner from the foundation to the crowning stone of palaces, of fortifications, and of the smallest houses. Here, there, and everywhere, under the direction of foremen, he shifted the large stones, excavated the foundations, and mixed the mortar and carried materials just as he does to-day. A section of the labouring population, Florence was the birth of one of its most remarkable institutions, La Misericordia, still existing in all the striking similarities of its mediæval costume and practice. It originated in the easy and loose habits of a number of men who loafed and hung around the Piazza of the Holy Trinity during the two annual woollen fairs. They used to be about seventy or eighty of them, while waiting for a job, made use of a cellar in the Piazza as a place of refuge from the cold and the rain. They used to have a fire and play at dice when work was slack. The head of the gang, one Piero di Luca Borsi by name, was rebuked by the bad language and blasphemy which he frequently heard among them, so he induced them all to agree that every man guilty of using a profane or abusive expression should be fined by having to contribute a *crazzia*—equal to two-thirds of a penny—to a box provided for the purpose. In course of time a considerable sum was thus collected. Then he proposed and induced his companions to consent to spend it in providing six litters, one for each ward of the city, and to appoint each week two of the number to each litter for the purpose of carrying

poor sick persons to the hospitals, or those who met with sudden accidents or were killed in the streets.<sup>12</sup> From this curious beginning the institution gradually developed and became of great importance and service when pestilence was rife in the city. It has continued its charitable work down to the present time, a striking witness to the Florentine porters' capabilities in the free expression of ornamental language, and to the goodness of Piero, the ganger. It is likely that these porters who assembled at the Fairs held in the city had their own guild, as such a guild is known to have existed in Roman times at Smyrna, under the name of the Guild of Street Porters.<sup>13</sup>

No one who had not matriculated in one of the arts could bear office in the State. The franchise was never extended beyond the burghers. Over and over again we find that members of a few prominent old families bore the chief office of Prior or Gonfaloniere. As many as forty, fifty, or sixty times the same ancient name appears above the rest. It was only occasionally, in the thirteenth century, that a wool vendor, oil dealer, or butcher was given some less important office to conciliate the minor guilds. In the meantime the Florentine workman was working at the one important art—that of the goldsmith.<sup>14</sup> All painters, metal workers, and church decorators were included as members of the Goldsmiths' Guild. The goldsmith was the most important of them all, and was required to be at once modeller, sculptor, smelter, enameller, mounter, and inlay worker. He had to cast his own models of wax, as well as to labour with his hammer and embellish with his graver. He had to make chalices, reliquaries, vases and censers, and to produce by the process of punching the open work of the designs of copper intended to ornament the books of the frugal scholar. His was the craft "par excellence" which left an ineffaceable imprint on nearly every branch of art.<sup>15</sup> Throughout all the vitality and splendour of these early days in Florence the traditions of the guilds still inspired the craftsman, and whether he wrought in metal or carved in stone, it may be written of him in truth that the Lord had filled him "with wisdom of heart, to work all manner of work, of the engraver, and of the cunning workman, and of the embroiderer, in blue, and in purple, in scarlet, and in fine linen, and of the weaver, even of them that do any work, and of those that devise cunning work."<sup>16</sup>

12. Trollope.

13. Ramsey.

14. Lacroix.

15. Lacroix.

16. Exodus, chap. 35, verse 35.

## "THE ARCHITECT AND RECONSTRUCTION."

THE following quotation is from an admirable letter in the "A.A. Journal" by N. Martin Kaye (Sapper, R.E.): "It is of vital importance to win the war; but at the same time it must not for a moment be forgotten that we have in all branches of life and in all callings to prove to our enemies that we are also capable, by means of a firm spirit and dogged resolution born of innate love and patriotism for our country and Empire, of a quick recovery from the effects of war. Win the war we shall and must, but unless men have benefited seriously from the lessons which this war has revealed to them all the labour, all the sorrow, the loss of life, will have been in vain, and the whole object of the war a hideous mockery. Without, therefore, an eye on the future, and laying the foundation for peace and subsequent renaissance, the community will hardly find itself fit to cope with the problem. This applies to every branch and calling of life in the country, and our profession as one of them."



## THE FUNCTION OF THE ARCHITECT.

*"That deplorable ignorance on all matters architectural still exists is surely one of the leading causes of our troubles. The public have little, if any, appreciation of the function of an architect: they entirely fail to give him any credit for the creative constructive side of his work, and if they think of him at all it is only as an anæmic decorator whose services are better dodged."*

C. H. B. QUENNELL, F.R.I.B.A.

IT would be idle to dispute the general correctness of Mr. Quennell's diagnosis. Every practising architect has suffered more or less acutely, in mind, body, or estate, from the public ignorance of his functions, and the consequent public apathy towards him. It reacts on his work and his art by restraining his ardour, even, in extreme cases, by destroying his *moral*. He cannot do the best that is in him unless he feels that his work is intelligently understood and appreciated.

It is this same sensitive temperament that is partly responsible for keeping him aloof from the public, which is therefore ignorant of his function, and regards him as a strange survival of the dark ages when people did not know enough to advertise. He does not sufficiently impress himself on the public, is not sufficiently seen in public affairs: in which his influence would be of great value, from which he would derive a valuable first-hand knowledge of men and measures, and by which he would make himself known as a man fit to be trusted in matters of business. If he gets to be known as a practical-minded man, a steady flow of business will come his way. If, on the other hand, he is thought to consider himself a Superior Person, cherishing Horatian odium for the "profane and vulgar crowd," and holding expensive and otherwise impossible notions about Art (which is a thing no fellah can understand; and those fellahs who think they can are apt to give themselves insufferable airs), then he will be carefully avoided. Only the unknown is terrible; and the great Philistine British public fear the architect and fight shy of him because they are ignorant of his functions. They suspect him to be rather dangerous—if once they get into touch with him, he might at any moment spring something on them that was mysteriously and expensively artistic or faddy. At the outbreak of the war, these erroneous views were shared by the Government, for whom everybody and anybody was asked to build, always excepting the architect, who was thought to dwell on the Olympian heights, remote from the valleys and plains on which barracks and huts and hospitals are built. It was not until Mr. Ernest Newton succeeded in convincing the Government that the architect is really human, and is not only practical-minded, but uncommonly versatile and adaptable, that the R.I.B.A. was permitted to do the "devilling" in the national housing scheme. If it had been, from the outset, allowed to supply the leading counsel on all matters of building, vast sums of money would have been saved to the nation, and there would have been much less cause to complain of bad building. Further, it may be confidently claimed that architects, with their specialised skill in organisation, could have effected such economies of labour and materials as would have allowed for the continuance of at least a moderate amount of private building.

But the Government having, at the outset, only a vague conception of the functions of the architect, was not keen on calling him in. It has paid heavily for this omission. Similar ignorance among private persons is similarly penalised. In the long run they pay dearly for their mistake of avoiding the architect—a mistake arising from their ignorance of his functions and qualifications. They do not know that special study and lifelong training have fitted him to give sound and profitable advice on many matters with which they seldom dream of associating him. They know that it is his business to draw the elevation, plan the rooms, specify the materials and workman-

ship. What else he does, they are unaware. Consequently they refuse him "credit for the creative constructive side of his work."

If they allow him no further influence in the matter they stultify themselves. They fail to conceive of a house as a homogeneous whole, harmonious in every detail. They are pleased to find the outside shell refined, correct, beautiful; and they may regret that the interior, though well planned, is a sad fall-off from the promise of the exterior. They may not have sufficient taste to perceive that, somehow or other—they cannot tell exactly how—the interior fittings and furnishings are at fault. There is something wrong—they cannot tell exactly what—with the panelling, the scheme of decoration, the electric-light fittings, the furniture and fittings. These may all be costly and of high quality in themselves, yet somehow they are not in keeping with the general architectural design. Why not? Because the architect has nothing to do with them.

In ninety-nine cases out of a hundred the disappointing interior, to say nothing of that which is merely vulgar and ostentatious, has been created independently of the architect, his work having been almost entirely concerned with the carcass.

How profound a mistake, to suppose that the architect is concerned with only the body of the house, not with its soul! It is, however, a very prevalent error, and a frequent consequence is that in too many new houses of good design and sound construction the interior finish is arranged without consulting the architect. Unless he happens to be eminent in the profession and of autocratic disposition, his claim to choose the fittings and to arrange the scheme of decoration is commonly disregarded.

It is ignorantly supposed that he cannot possibly know as much as the specialists in such matters—electrician, the wood-carver, the cabinet-maker, the art-plasterer. In a sense, the supposition is founded. It nevertheless involves a serious fallacy that confuses the issue. It is every whit as absurd as supposing that the architect cannot possibly know much about bricklaying as the specialists in it, and that therefore the architect must not "interfere" with the bricklayer. The fact that the public have to grasp is that a properly qualified architect is to the executant officers in the various crafts what the field-marshal is to the platoon commander. Imagine the consequence of leaving the petty officers to act independently of high command! Yet something comparable to this happens quite commonly where the householder instead of consulting an architect, calls in this, that, and the other firm of specialists to complete the architect's work. What they do is more likely to be not only incongruous with the architect's scheme, but in conflict *inter se*.

No matter how clever and how trustworthy the specialists, they are more likely than not to frustrate the architect's intentions, and spoil his scheme, unless they work to his designs and under his supervision. Without the directing and co-ordinating mind at the head, they will lapse into a fatal confusion of tongues. They are at their very best when they are under control as strict as that of the brothers Adam, whose interiors are consequently perfect in their kind.

In redecorating, the client is even more likely to stray than he is in building. As there is no building involved, the average client ignores the very existence of the architect—does not even remember him as



emic decorator," but writes to or rings up some whose advertisements are all-pervasive. Even if, some extraordinary fluke, he happened to know to remember that this is really an architectural ter, he would be apt to consider, quite erroneously, the architect's fee would be additional to the cost he work, and to imagine that therefore it would cheaper to go direct to some tradesman. Very low reasoning that! It leaves out of account the establishment expenses of the huge firms that tend to eliminate the architect, or to keep him on the premises and include him on the salary with the large army of bagmen, buyers, salesmen, walkers, stalwart commissionaires (to open doors and pound pet poodles), and other members of an *entourage* who are supported out of the its.

Clearly this cannot be the most economical way of doing the work, whatever may be said about the economics involved. On all grounds it would be infinitely more satisfactory to engage an architect whose fees, after all, are very insignificant—to see the matter through, and to control the scheme in its every detail. His fee, so far from being an extra expense, will ultimately work out as a remunerative investment. His misfortune is that, unlike the tradesman, he cannot merge his fee in a general charge; because it stands out prominent and undisguised, it is ignorantly accounted an extra, and, as Mr. Hannell would say, is therefore dodged.

Apparently there are many signs of a new movement which the architect is to take his legitimate place and exercise his functions to the full. Those functions are becoming better understood: the war has shed a new light on them. In civil Government service and in the field he is proving his value and versatility as a man of action. Then the recrudescence of the guild has brought him into prominence. Many architects, it would seem, are adopting a modification of the guild idea. They aim at creating every form that meets the design of the house they build or the formal arrangements they superintend: and they know where to get the work done faithfully in accordance with their wishes, by contractors who place full facilities and resources—materials, craftsmen, workmen—even—unreservedly at the disposal of the architect: who is thus accorded free and full play for the exercise of his creative faculty, the unhampered satisfaction of his conceptions. This, surely, is a movement that deserves every encouragement; for it is one in which the architect is taking his rightful position, and that there are tradesmen who, so far from attempting to usurp it, are loyally helping him to regain it and retain it.

## CORRESPONDENCE.

### *Deadwood.*

The Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIR,—Why does the Government hold up Professor Groomes's scheme for scientific work in timber for houses and house building? We are told it is because the timber trade does not give the scheme adequate support. People who sell such inferior wood as deadwood are not likely to further such a scheme—part of the living would be gone. Take a pre-war issue of the *Timber Trades Journal*, and notice the description of the import of this diseased timber. You will see the alarming proportions in which the timber has been used since 1880, when it was first introduced.

It is not healthy. Such wood is lifeless. No one can argue that deadwood is good wood. Decay must attack it very soon. Dry-rot is the most likely disease. It gets into a closely confined space and the terrible undermining fungus soon commences its work. It is

wood admittedly dead, bought by the merchant as dead, but how often sold as dead?

My house is 300 years old. The wall panelling is as good and healthy as when it was fixed, for it is oak. But the *deal* floorings were so honeycombed with worms that spilt water was directly soaked up. I was obliged to relay with new floor boards.

Here is proof, if proof were needed, that the life had gone out of the *deal* (red-wood) boards; worms had attacked them, they crumbled to dust; the nature had died out of them, and hence they were useless.

When even healthy trees are cut down, in a few hundred years the life gradually dries out of them, and then decay sets in. If the trees are lifeless before being felled they are dead vegetable matter and should be tabooed.

If a Government Department were appointed scientifically to investigate timber under all kinds of atmospheric conditions it would do very good work, and I am sure there would be an end to the importation of these inferior soft timbers.

The two chief architects' associations ought to interest themselves in the matter because of the legal liability to architects.

The Royal Institute of British Architects once held a discussion on the matter of an architect being legally held responsible because dry-rot had made its appearance in a building, even some years after it had been erected.

The endeavour of the Institute was to try to define the duties of an architect, so as to relieve him of the responsibility in such cases, but the law has not been altered on this point, and the architect is, as he has always been, responsible when dry-rot sets in in buildings of which he has control.

A builder said to me some time ago that a stack of timber he had just got in was the best he had ever had, because not only was it free from knots, but there was not a particle of sap on it. He said it was almost too good to use for joists. It was only my emphatic knowledge of this wood that convinced him that he was using deadwood. Indeed, it is not to be wondered at that many builders and architects are entirely ignorant of this inferior wood. Apart from the question of the reddish hue, there is nothing but the light weight of the wood to distinguish it.

For these reasons I assert, and strongly maintain, that an Act of Parliament should be passed prohibiting the use of diseased or dead timber, except when it is cut into thin slabs of only a few feet in length, so that it cannot be used for anything else besides box making or similar work. No one could then be injured; the exporters and importers of deadwood would then still be able to sell their deadwood, and no disarrangement of commerce would result.

Perhaps some of the eminent architects now so closely in touch with the Government will further Professor Groomes's scheme for the sake of the general public, even if the legal liability of the architect is treated as of little or no consequence.

King's Lynn.

J. H. KERNER-GREENWOOD.

## R.I.B.A. BOARD OF ENQUIRY.

### *Architects' Appeals Before Military Tribunals.*

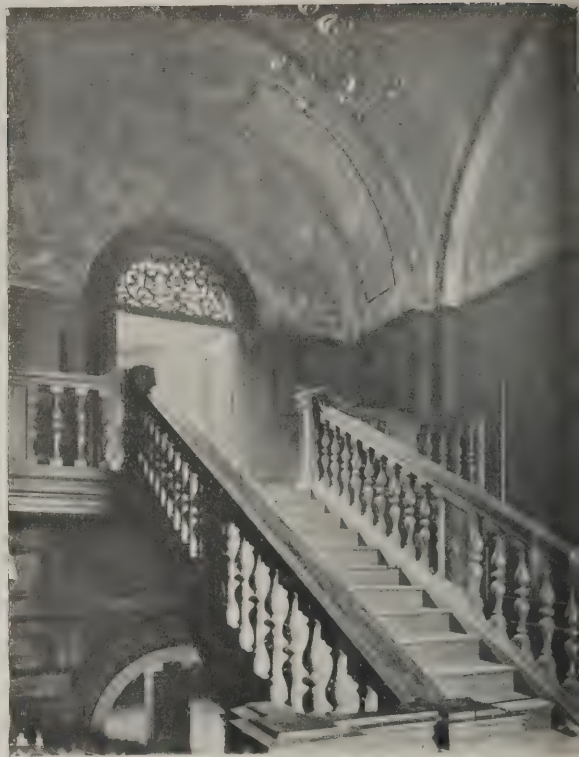
WE are informed that the R.I.B.A. have constituted a Board of Enquiry with regard to architects who are appealing for exemption from military service before their local Tribunals. This Board has been recognised by the Ministry of National Service, and is prepared to consider any cases that architects may desire to lay before it. Applications to the Board must be accompanied by full particulars of the grounds of the appeal, and all communications should be in writing addressed to the Hon. Secretary, R.I.B.A. Board of Inquiry, 9, Conduit Street, W.1.



## THE PLATES.

### *The Michaelis Art Gallery, Cape Town.*

SEEKING a home for Sir Hugh Lane's collection of Dutch and Flemish pictures (acquired by Mr. Max Michaelis, and presented by him to the people of South Africa), the authorities made the very happy choice of the old Stadthuis, Cape Town. The building, a typical example of Dutch Colonial architecture, had fallen into a sad state of dilapidation, and a good deal of renovation work was necessary before it could fittingly serve its new purpose. This work was entrusted to Mr. J. M. Solomon, of Cape Town and Johannesburg, who has accomplished his very difficult task with perfect success. Owing to its decayed condition, the building had to be virtually remodelled throughout. The architect has, however, been able to conserve many of its original features; and where reconstruction was necessary it has been carried out very carefully and with a sympathetic regard for the venerable fabric, the spirit and manner of which have been everywhere preserved. In addition to remodelling the old building (and incidentally reinstating the portico, destroyed some long time since), Mr. Solomon has built a considerable addition to it at the rear, a feature of which is a delightful garden court with a pergola and fountains. The roof and first floor were entirely reconstructed in reinforced concrete (on the Kahn System) in order to secure the valuable contents from risk of damage by fire. The old walls being of soft brick laid in clay, the new beams have been placed abnormally close in order to distribute as far as practicable the loading from the new floor and roof. This close spacing was specially advantageous where there were Hy-Rib ceilings, namely, over the hall and rooms, 1, 2, 3 and 4. The two main rooms on the first floor had teak ceilings, with massive teak beams. The small tower weighed about 20 tons, and was temporarily supported on props piercing the supporting beam. After this beam was thoroughly set



THE STAIRCASE.

the props were removed and the holes made good with concrete. The contractors were Messrs. A. Reid and Co., of Cape Town.

### *Details of Florentine Craftsmanship.*

These supplements should be studied in conjunction with Mr. G. Llewellyn Morris's "compilation" "Florence and the Florentine Workman," the first part of which appeared in last week's issue.



THE MICHAELIS ART GALLERY, CAPE TOWN: THE OLD COUNCIL CHAMBER (REMODELLED.)

J. M. SOLOMON, ARCHITECT.





General View.

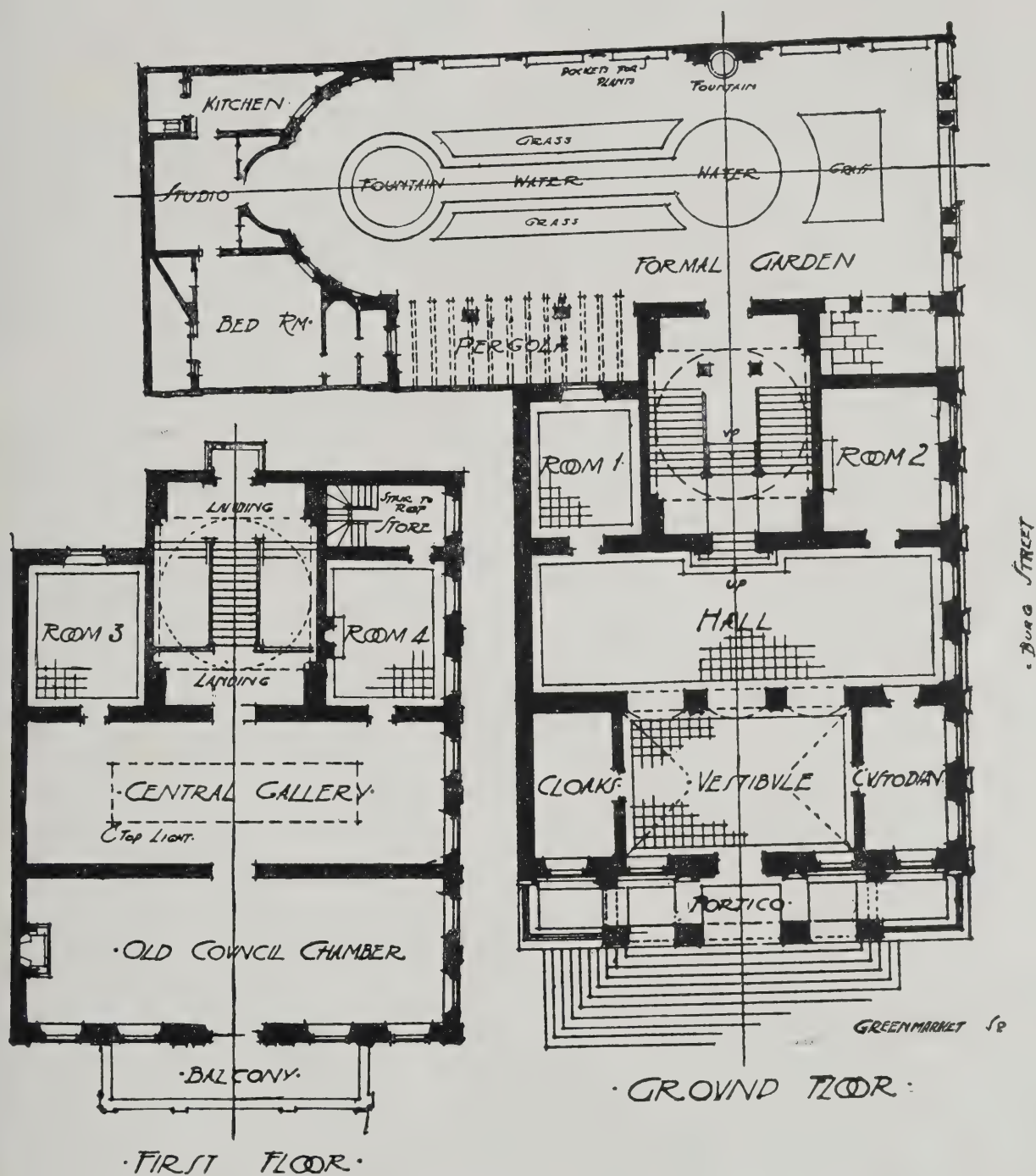


The Formal Garden.

CURRENT ARCHITECTURE (SERIES V.). L.—THE MICHAELIS ART GALLERY, CAPE TOWN.  
(THE OLD TOWN HALL REMODELLED). J. M. SOLOMON, ARCHITECT.







CURRENT ARCHITECTURE (SERIES VI.). I. - THE MICHAELIS ART GALLERY, CAPE TOWN:  
GROUND- AND FIRST-FLOOR PLANS. J. M. SOLOMON, ARCHITECT.







DOORS AND DOORWAYS. XXVI.—DOORWAY AND HOOD, FLORENCE.

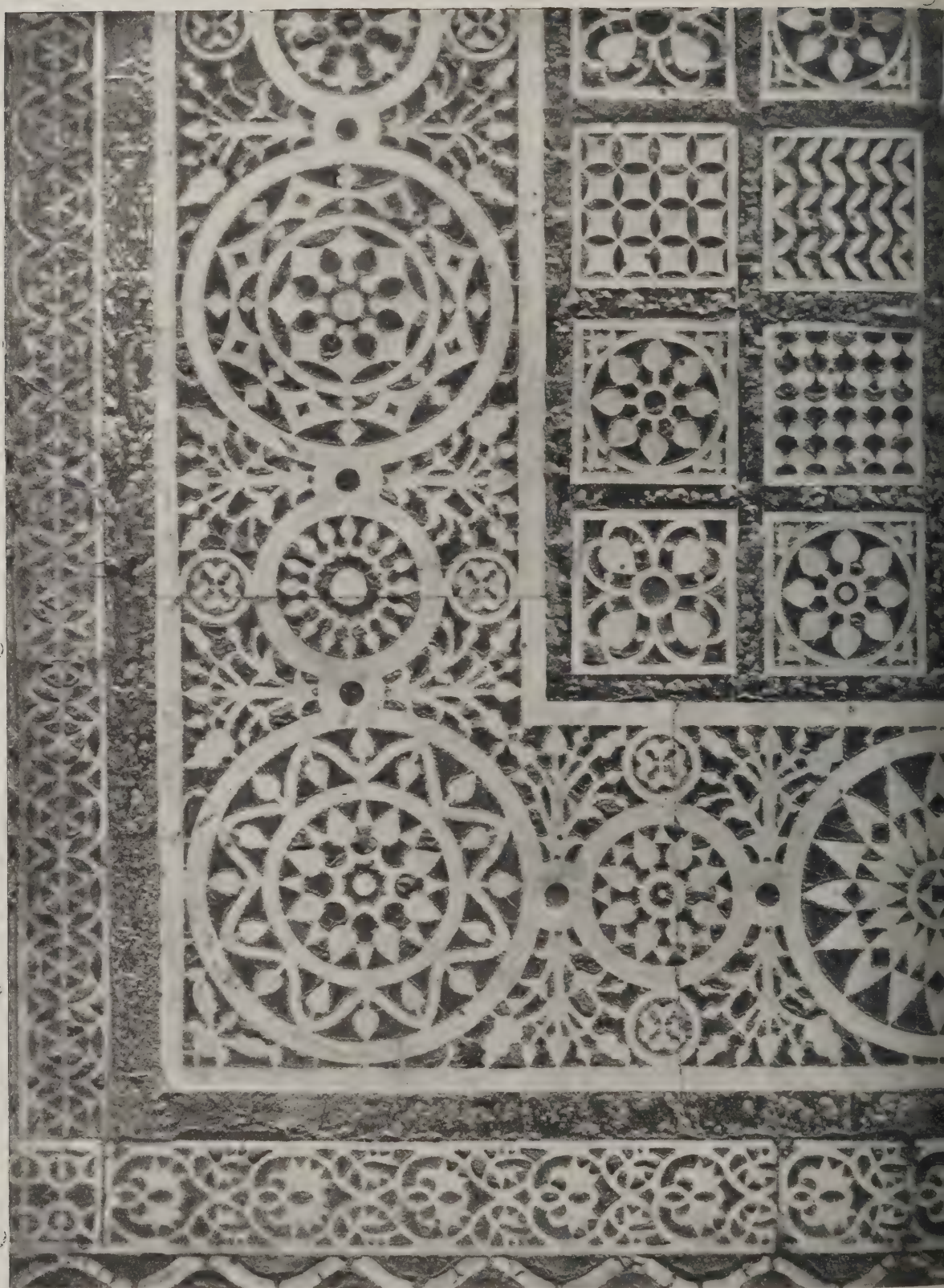




Arch,

NOV 25 1918





DETAILS OF CRAFTSMANSHIP (SERIES III) X





THE BAPTISTERY, FLORENCE. (A.D. 1233).





## NEWS ITEMS.

*New Church for Coventry.*

man Catholics in Coventry are raising, at a cost of £7,000, a new church memorial to those who have fallen in war.

*War Memorial, Bakewell.*

A vestry meeting of Bakewell Parish Church it has been decided to apply for a grant to provide a Lady chapel at the eastern end of the south aisle of the church memorial to those who have fallen in war.

*The Replanning of Manchester.*

A meeting of the Royal Manchester Institution was held on October 10 at the Midland Hotel, Manchester, to consider the proposal for a new town plan for the city. On the invitation of the Committee, Mr. John Hemm set forth his views on the scheme to be adopted.

*Church of Hospital of St. Cross Restored.*

The Bishop of Winchester has dedicated North Chapel in the Church of the Hospital of Saint Cross, Winchester, which has been restored for Divine Service as a memorial to those connected with the parish who have given their lives in the war. The work has been carried out under the designs and under the supervision of Sir Thomas Graham Jackson,

*B.A. Premises for National War Museum.*

As the result of friendly negotiations the National War Museum is to be housed in the buildings of the Royal Institute of British Architects in Conduit Street and Essex Street. This arrangement will not interfere with the occupation of the premises by the Institute, the Maddox Galleries being allotted for the purposes of the Museum. The Museum will remain in the Institute until a permanent home has been built.

*Chamberlain's Gift to Birmingham.*

Mr. Austen Chamberlain has given Highbury for the purposes of a hospital for disabled men. In his letter concerning the gift, Mr. Chamberlain said: "It is not without regret that I break my connection with a house which was my home for more than thirty years, and round which so many memories, public and private, have gathered; but, since it is not possible to make it my home any longer, I give it to my father would have approved the purpose to which it is to be devoted."

*Exhibition of Rubbings of Monumental Brasses.*

In view of the suitability of monumental brasses as one means of meeting the extensive demand for war memorials, a selection of rubbings of well-known English brasses from the Museum Collections has been arranged in Room 135 (top floor) of the Victoria and Albert Museum. The brasses have been classified under the headings Military, Ecclesiastical, Civil, and Other Costume, and illustrate the development of this form of memorial in England from the thirteenth century onwards. A few from modern brasses are also shown, including examples from a new cross at Sledmere, Yorks, in memory of officers and men from that vil-

lage who have fallen during the war. It is hoped that this exhibition may give an impetus towards reviving the use of a form of memorial which is at once distinctively English in character and admirably suited for the purpose in view. The Museum Collections contain rubbings of over 2,400 brasses. Any which are not on exhibition can be seen on application at the Students' Room of the Department of Engraving, Illustration, and Design (Room 132). A complete list, with illustrations of 176 rubbings on fifty-six plates, is published, price 2s. 6d.

*The Serbian Red Cross.*

Mr. Yovan Yovanovitch, Serbian Minister, and President of the Serbian Red Cross Society in Great Britain, appeals to the British public to supplement the generous gifts of the Australian, Canadian, Italian, Japanese, and New Zealand Red Cross Societies to the Serbian Red Cross Society in Great Britain. These gifts are being forwarded to Serbia with all possible despatch and will be distributed by the society's own officers in that country. Contributions should be sent addressed to the Honorary Treasurer, Serbian Red Cross Society in Great Britain, 9, Ennismore Gardens, London, S.W.7.

*Old Houses in Westminster.*

The London County Council have decided to withdraw the sites of certain houses in Smith Street and North Street from the list of sites available for letting in the Westminster improvement area. The houses, with others the leases of which will not fall in until 1929, were built in the early part of the eighteenth century, and a memorial had been presented urging that the demolition of "this old-world quarter" would cause an irreparable loss to the City of Westminster. The retention of the houses had also been urged by the London Society and the Society for the Protection of Ancient Monuments.

*War Memorial Tablets in Liverpool.*

The last two or three sittings of the Liverpool Consistory Court have been chiefly occupied with the hearing of applications for permission to erect brass or marble tablets in churches in various parts of the diocese in memory of parishioners who have made the great sacrifice in the war. In a number of churches several of these memorials have already been placed, and in one or two instances five or six have been erected in the walls of one church, while applications for others are in contemplation. That the memorials are of a substantial character is shown by the fact that in one case which has come before the Consistory Court the cost of the brass tablet to be erected by a mother in memory of her son will be £245.

*Kingston Vale Memorial.*

The stretch of farm land which lies near the famous Stag Inn (now a farmhouse), between Stag Lane, the Roehampton Vale Road, the Beverley Brook, and Wimbledon Common, has been acquired by some private residents in Wandsworth and Wimbledon. The intention is to resell it at the purchase price to a fund to be formed by public subscription for the purpose of making a portion of the land a garden, with a monument, in memory of the members of the local battalions and other units and of families connected with the districts round the common who have fallen in the war. The rest will be vested in the Conservators of the Common. As the whole of the price of the land (£10,000) will be covered by the subscrip-

tions of those who have joined in the purchase, there will remain to be obtained by further contributions only the cost of the monument and of fencing and planting. This, it is hoped, will not exceed £4,000.

*The London Society and the Adelphi.*

A meeting has been arranged by the London Society, to be held in the Hall of the Royal Society of Arts, 18, John Street, Adelphi, W.C.2, on Thursday, October 24, 1918, at 4.30 p.m., to consider the grave risk now threatening the Adelphi Estate (which is full of priceless relics of the Adam Brothers' work) by reason of its proposed appropriation by the Air Board. The society states that while they are only too anxious for patriotic reasons not to stand in the way of any Government work, they are firmly of opinion that more suitable premises could be found than are available on this estate, because its houses are of small area and could not be made suitable for the purposes of the Air Ministry without irreparable damage being done to the exquisite interiors. The Right Hon Lord Aberconway, P.C., K.C., has kindly promised to preside at the meeting.

## TOWN PLANNING IN LONDON AFTER THE WAR.

A joint report has been prepared by the chief engineer, the architect, and the valuer to the London County Council on the question of co-operation in the preparation of town-planning schemes between neighbouring local authorities in London. From an accompanying statement it appears that in Greater London one district, Ruislip-Northwood, has received the approval of the Local Government Board to a scheme in respect of 5,906 acres, that 21 schemes have been authorised to be prepared in 20 districts for 41,713 acres, that application has been made by two districts for authority to prepare schemes for 5,228 acres, and that eight districts have given notice of intention to apply for schemes for, approximately, 13,500 acres.

In regard to the possibility of the simplification of town-planning schemes in general, in view of war conditions, the suggestion is made that the best and most economical course appears to be to prepare, in the first instance, schemes of a simple or skeleton character, leaving the details to be filled in as required when the land becomes ripe for development. Such simplification would tend to minimise delay in the first settlement of schemes, a matter particularly important in regard to the "sterilisation" provisions of the Housing, Town-Planning, etc., Act.

These "sterilisation" clauses provide against the obtaining of compensation on account of any building erected on, on contract made, or other thing done with respect to land included in a scheme, after the time at which the application for authority to prepare the scheme was made or after such other time as the Local Government Board may fix for the purpose. It is pointed out that there is no special provision requiring the responsible authority to proceed with the preparation of a scheme with due despatch, and the fact that so long a time has elapsed between the permission to prepare being given and the date of approval has had a serious effect on development. The suggestion is made that the date from which the sterilisation section should operate might be the date when the scheme was first made public.





## WAR BUILDINGS SECTION

### TESTS OF FULL-SIZE ROOF TRUSSES.

BY R. S. SCHOLEFIELD, A.M.I.C.E., Licentiate R.I.B.A.

IT is not frequent that experiments to destruction have been made of full-sized framed girders and roof principals, or, if they have been carried out, that the results have been published. It is rather too expensive a form of testing, but whenever it has been found possible to make it, this form of test is far superior to, and more dependable in, its results than the laboratory testing of small samples of materials or small-scale models of framed structures.

Some time ago a series of full-size tests were made of wooden king-post and queen-post roof principals under the direction of Major G. K. Scott Moncrieff, R.E., and a description of the tests was given in the *Journal of the Royal Institute of British Architects*, the object of the experiments being to ascertain whether such trusses, constructed according to detailed dimensions of the various members furnished by Tredgold in his standard work on "Carpentry," published in the early part of the nineteenth century, had any advantage over trusses made more in accordance with theory and more economical of material.

The report says, "Before being perfectly certain, however, that trusses based upon theoretical principles could be more economically made than those designed by Tredgold, it was necessary to subject specimen trusses of both kinds to tests. It was further necessary to have these tests carried out on full-sized trusses, as models might give unfair results."

Such reasoning may have the appearance of extreme timidity on the part of the designer, but the results of the testing would often be of extreme value in building and engineering work.

In the trusses that were made for the experiments the first principle adopted was that the axes of the various members should intersect at one common point and thus ensure direct stress without secondary

strains. This was an improvement on Tredgold's sketches, in which the point does not appear to have been sufficiently considered.

The design of the joints was also reconsidered, and the cross sectional area of the various members of the truss was modified to suit the respective positions and use of the different members.

The first full-size tests were carried out on trusses resting on two brick piers, the loading being put on the truss by pulley blocks and tackle, the value of the load being known by the use of weighing machines fixed between the blocks and the point of application of the load.

It was then found that the loading could not be applied without considerable danger to the men working the blocks, and some other arrangement became necessary.

The pulley blocks for applying the load were superseded by the use of hydraulic jacks or rams, having a pressure gauge for registering the loading, the rams being worked from a safe distance, and the truss being tested when laid on its side as shown on Fig. 1 (page 195).

The first trusses were of the king-post class and of 28 and 29 ft. span. It was assumed that a working load of at least 40 lb. per square foot on the inclined surface should be provided for. It was also assumed that the purlins, one on each side of the roof, should alone take the loading and that no load whatever should come upon the truss from the ridge, and the loading upon the wall or "pole" plate was ignored as not affecting the truss. It was further assumed that the two purlins take one-half of the total load of the roof, the other half of the load being carried by the two pole plates. This seems to be incorrect, as the two purlins appear to have three-fourths of the total load upon them in the case of the king-post roof truss, and

the four purlins appear to carry five-sixths of the total load on the queen-post truss.

The first test was on a king-post truss laid on its side, the span being 28 ft., and the inclined backs and the tie beam being each of 5 by 4 in. scantling, the struts under the purlin being 4 by 4 in. and the heel straps  $1\frac{1}{2}$  by  $\frac{1}{2}$  in., placed at right angles to the inclined backs. The end of the tie beam projected 9 in. beyond the foot of the back, an object of the test was to find whether the tie beam of the truss, which was of the same cross section as the back, would likely to fail.

A pressure of 12,000 lb. was put on the side of the truss, a loading which was to be about twice the maximum load the truss was supposed to carry.

The result was that, whilst the members of the truss were found to be sufficiently proportioned, the projecting end of the tie beam sheared off along the grain of the timber on one side, the other end still held by the strap.

At the failed joint the plates used for bearing under and over the strap, having a pressure of 4,974 lb. per square inch, had crushed into the timber. The timber on the sheared timber in the tie beam was 668 lb. per square inch, although the ultimate shearing stress on fir timber along the grain is only supposed to be 500 lb. per square inch.

This test proved nothing except the weakness of the one joint, the general strength of the truss being apparent.

The second test was of the same class, but with the tie beam placed by two planks, each 5 by 1 in., and a horizontal strap secured by one bolt through both members of the tie beam, replacing the previous inclined strap. Wedges of hard wood tightened up the strap at the ends of the tie beam.

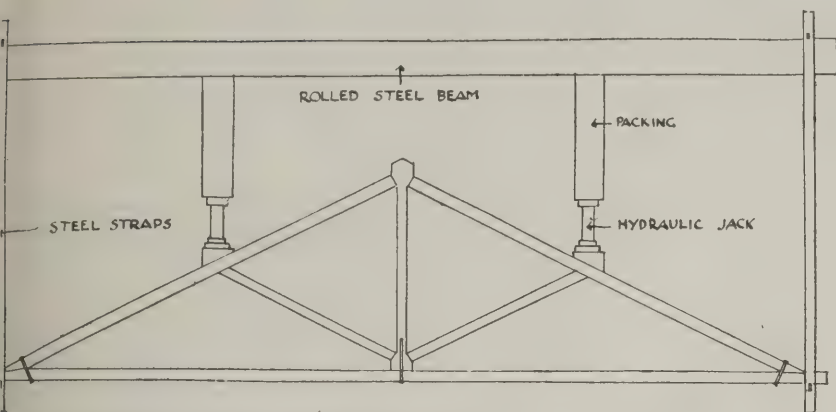
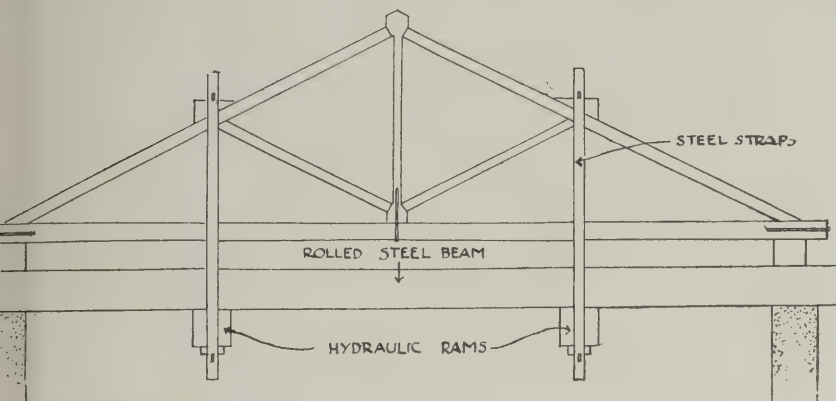


FIG. 1.—SHOWING HOW THE KING-POST TRUSS WAS TESTED ON ITS SIDE.



—SHOWING HOW THE KING-POST TRUSS WAS TESTED IN A VERTICAL POSITION.

truss failed at 7,500 lb. on each side instead of the 12,000 lb. of the first test by bending the straps and splitting edges, showing the joint design again.

The third test was of a king-post roof truss of 28 ft. span, the principal backs 6 by  $3\frac{1}{2}$  in., the struts 4 by  $2\frac{3}{4}$  in., tie beam  $11\frac{1}{2}$  by 6 in., the king-post 6 in., these scantlings being practically the same as given by Tredgold for this type of roof truss.

At 12,000 lb. on each side, instead of the 7,500 lb. of the first test and 7,500 lb. of the second test, this truss partly failed by the buckling of the struts and the splitting of their fibres at the foot. Molesworth in his "Pocket Book," gives the scantling for this strut as 6 by 3 in. instead of 4 by 3 in.

The test was continued, and at 7,500 lb. on each side the truss had bent into a

sinuous curve and split at a tight knot, no further testing being done, and the final loading being taken as equivalent to 75 lb. per square foot of roof.

This test showed the weakness of the compression members, which failed sideways in their least dimension, although a considerable stiffness was given to the truss by the large dimensions of the tie beam.

The fourth test was also of a king-post truss of 28 ft. span. In this case the backs were 5 by 6 in., struts 5 by 4 in., king-post 5 by 2 in., and tie beam of two planks 8 by 2 in. respectively, the scantlings being amended from Tredgold's dimensions. The strap at the foot of the back was 2 in. wide, and was secured by a 2-in. bolt through both the tie beams.

With a load of 9,000 lb. on each side the truss began to buckle, but did not actually fail until at 11,000 or 12,000 lb. the

hydraulic jacks became useless and the testing came to an end, the load at this point being estimated as equivalent to 137 to 140 lb. per square foot, instead of 75 lb., as in the previous third test.

In the fifth test the king-post truss was placed vertically, as shown by Fig. 2, this vertical position being adopted for all the remaining tests. The steel straps were now used directly to carry the hydraulic rams instead of being used to carry the ends of the truss from a rolled steel beam, as shown by Fig. 1.

This test was upon the same truss as used in the fourth test. With 5,975 lb. on each side the truss began to buckle, and at 9,500 lb. it gave way by combined crushing and bending on one side of the principal. This was estimated as equivalent to 1,080 lb. per square inch on the principal back, the safe load for which the member was calculated being assumed to be 600 lb. per square inch.

The failure was said to be due to the presence of small knots and the shrinking of the joints, and the final load of 9,500 lb. on each side was less than the 11,000 or 12,000 lb. final loading of the previous case, when the truss had been tested when lying on its side. Hence the necessity of making tests on members placed in the position they are to actually occupy when in the building.

The sixth test was on a king-post roof truss of 24 ft. span, the principal backs being 5 by 4 in., struts 4 by  $2\frac{1}{2}$  in., and tie beam  $10\frac{1}{2}$  by 5 in.

At 7,800 lb. on each side the back showed signs of splitting, and at 10,000 lb. on each side the lateral bending of the truss was about 4 in. At 11,000 lb. on each side the truss absolutely failed by cracking along the principals with a vertical deflection of  $2\frac{1}{2}$  in., the failure occurring at a loading estimated as equivalent to a uniform weight per square foot of 84 lb.

The seventh test was also on a king-post roof truss of 24-ft. span, but with lighter scantlings, these being for the backs 4 by 4 in., struts 4 by 3 in., king-post 4 by 3 in., and tie beam of two planks 8 by  $1\frac{1}{2}$  in.

At 7,500 lb. on each side there was no sign of weakness, but at 10,000 lb. on each side the lower end of the principal pushed the heel strap into an inclined position. The testing was stopped at this point, when the resistance of the principal rafter was at 1,403 lb. per square inch, as against the 1,240 lb. ultimate pressure per square inch of test No. 6.

The eighth test commenced a series of tests on queen-post roof trusses (see Fig. 3) of 32-ft. span. In this case the scantlings

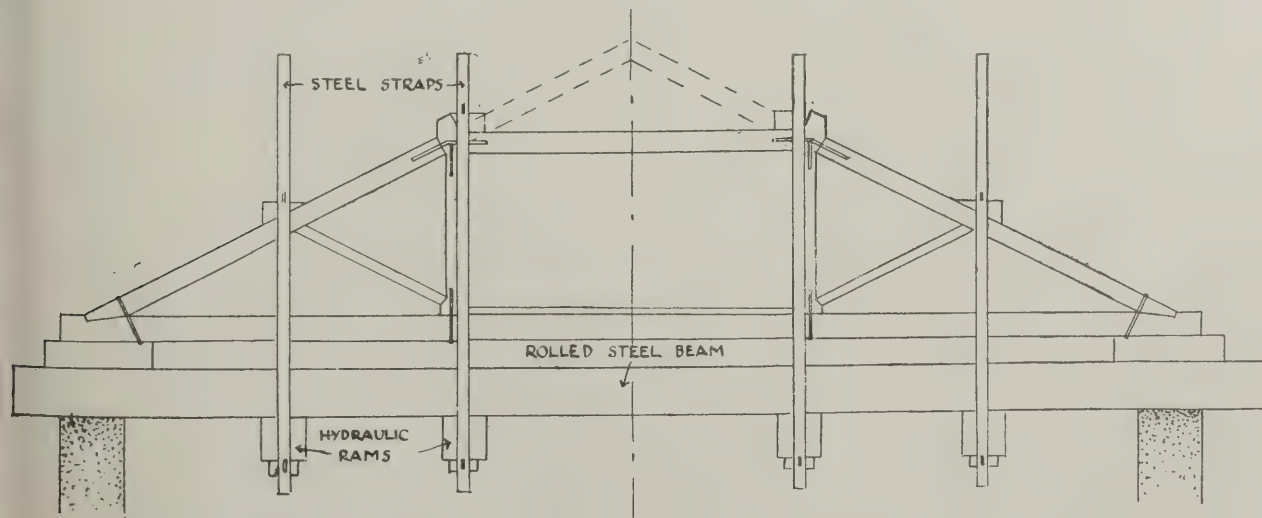


FIG. 3.—SHOWING HOW THE QUEEN-POST TRUSS WAS TESTED.



were those given by Tredgold, the principal rafters being  $6\frac{3}{4}$  by  $4\frac{1}{2}$  in., struts  $3\frac{1}{2}$  by  $2\frac{1}{4}$  in., tie beam 10 by  $4\frac{1}{2}$  in., queen posts 4 by  $4\frac{1}{2}$  in., straining beam  $6\frac{3}{4}$  by  $4\frac{1}{2}$  in., and straining sill  $4\frac{1}{2}$  by 3 in.

The strap at the foot of the principal rafter was fixed at right angles to the rafter, and was of 2 by  $\frac{3}{8}$  in. section, and welded straps of similar section were fixed at the top joints of the queen-posts.

In testing these queen-post trusses the difficulty was in keeping them in line and from buckling laterally. The trusses were not in any of the cases tested to actual destruction, although they were crippled. Every care was taken to keep the truss to line by lateral stays and other tackle.

The loads were four in number and were put on the principal at the tops of the queen-posts, and also where the purlin should be placed at the top of the strut. With a total loading of 24,780 lb., or 6,195 lb. at each point, the fibres at the ends of the struts began to be crushed, and the queen-posts showed signs of shearing along the grain at the places where the struts were tenoned into them.

At a total load of 31,920 lb., or 7,980 lb. at each of the four points, the joint at the foot of the principal back was crippled, the fibres of the timber being crushed and the strap strained and bent.

The ninth test was of the same truss, but with a new strap at the heel of the rafter. After a total loading of 37,680 lb., or 9,420 lb. at each of the four points, the truss buckled laterally without actual fracture and slipped off its bearings.

The tenth test was of a queen-post truss of the same span as in tests Nos. 8 and 9, but with a double tie beam and stouter members.

The principal back was  $7\frac{1}{4}$  by 5 in., the straining beam 9 by 5 in., queen-posts  $4\frac{1}{2}$  by 5 in., struts  $4\frac{1}{2}$  by 5 in., tie beam of two planks each 8 by 2 in., and straining sill 5 by 3 in.

The strap at the foot of the principal rafter was now horizontal, and of  $2\frac{1}{2}$  by  $\frac{3}{8}$  in. section, being secured by gibs and cottars to ensure perfect fit under test in preference to a single fastening bolt of previous cases.

There was no actual failure of any of the joints, or of the members, but the testing failed through the buckling of the truss under a total loading of 30,000 lb.

The ten experiments were by no means exhaustive, but show that if the dimensions of the members of the truss are sufficient to resist bending in both directions under compression the critical strength of small span timber roof trusses, as usually made, consists in the strength of their joints and fastenings, and in the manner in which they are restrained from buckling as a whole by wind braces, side stays, purlins, etc.

The following formulæ were given by Major Moncrieff for calculating the scantlings in timber roofs:

$W$  = total weight on roof, including snow and wind pressure, borne vertically by one principal rafter.

$w$  = weight of roof principal and ceiling only, and excluding common rafters, roof covering, snow, and wind pressure.

$\theta$  = inclination of roof to horizon.

For a king-post truss:

Thrust on heel of principal =

$$\left(\frac{13}{16} W + \frac{5}{16} w\right) \text{ cosee } \theta$$

Tension in tie beam =

$$\left(\frac{13}{16} W + \frac{5}{16} w\right) \cot \theta$$

Thrust on strut =

$$\frac{5}{16} W \text{ cosee } \theta$$

Tension in king-post =

$$\frac{5}{8} (W + w)$$

For a queen-post truss:

Thrust on heel of principal =

$$\left(\frac{13}{15} W + \frac{11}{30} w\right) \text{ cosee } \theta$$

Tension in tie beam =

$$\left(\frac{13}{15} W + \frac{11}{30} w\right) \cot \theta$$

Thrust on strut =  $\frac{W}{6} \text{ cosee } \theta$

Thrust on queen-post =  $\frac{W}{6} + \frac{11}{30} w$

Thrust on straining beam =

$$\left(\frac{11}{20} W + \frac{11}{30} w\right) \cot \theta$$

Thrust on straining sill =  $\frac{W}{6} \cot \theta$

## A BRITISH INSTITUTE OF INDUSTRIAL ART.

The Board of Trade, in conjunction with the Board of Education, and with the advice of representative members of the Royal Society of Arts, the Arts and Crafts Exhibition Society, the Art Workers' Guild, the Design and Industries Association, and various persons and organisations connected with manufacture and commerce, have framed a scheme for the establishment of a British Institute of Industrial Art with the object of raising and maintaining the standard of design and workmanship of works of industrial art produced by British designers, craftsmen, and manufacturers, and of stimulating the demand for such works as reach a high standard of excellence.

The Institute will be incorporated under the joint auspices of the Board of Trade, as the Department dealing with industry, and the Board of Education, as the authority controlling the Victoria and Albert Museum, and the methods by which it is proposed to achieve its objects include:—

(a) A permanent Exhibition in London of modern British works selected as reaching a high standard of artistic craftsmanship and manufacture.

(b) A Selling Agency attached to this Exhibition.

(c) A Purchase Fund for securing for the State selected works of outstanding merit exhibited at the Institute.

(d) The establishment of machinery for bringing designers and art workers into closer touch with manufacturers, distributors, and others.

(e) The organisation of provincial and travelling exhibitions of a similar character, either directly or in co-operation with other organisations.

In addition to the governing body which will be responsible for the general management of the Institute, it is proposed to constitute an independent Selection Committee consisting of persons of outstanding reputation and position in relation to design, craftsmanship, and manufacture, and no works will be eligible

for exhibition which have not been submitted to and approved by the Committee.

It is intended that articles of craftsmanship not intended for multiplication into trade products mechanically produced shall both be eligible for exhibition provided that they comply with the conditions, including those relating to British design and workmanship, which reach the required standard. Provided there will be two sections of the Exhibition—for articles of craftsmanship and for trade products respectively.

It is not at present intended that the Exhibition of the Institute shall actually be opened until after the war, all preparatory steps are being taken as to avoid delay when peace has been restored. It is hoped that the Exhibition will be permanently open to the public except possibly on special days on which admission may be confined to accredited trade representatives or lines of the British Industries Commission. Arrangements will be made for the continual replacement of exhibits that are purchased or withdrawn. A suitable commission will be charged on sales effected through the Institute. There is reason to hope that within a short period of the Institute may become self-supporting (except, of course, as regards the cost of purchasing for the nation selected works of outstanding merit). But it is necessary to provide for an adequate guarantee to ensure the stability of the scheme at least during its initial stages, and to enable a high standard to be rigorously maintained without regard to immediate financial necessities. The Board of Trade confidently hope that such a guarantee will be forthcoming.

The above scheme has been framed and will be worked in close co-operation with the Council of the Royal Society of Arts, whose own scheme for the encouragement and co-ordination of movements towards the development and improvement of Industrial Art includes as one of its objects the support of the proposed Institute.

All communications should be addressed to the Secretary, British Institute of Industrial Art, Board of Trade, 7, Whitehall Gardens, S.W.1.

## TRADE AND CRAFT

### Condensation on Concrete.

The American Concrete Institute is doing good work in publishing a warning on condensation, for it is not well known that concrete is subject to condensation when the air is wet or humid, and that non-porous concrete is subject to condensation than a porous concrete. For instance, a weak concrete of broken aggregate will have proportionately the same porosity as the porous brick. We all know that brick walls, when plastered with lime mortar, are seldom subject to condensation.

Interior plastering will, however, prevent condensation on any sort of concrete. Mr. Kerner-Greenwood has spent much time in experimenting with various plaster mixtures to find the most absorptive plastering material. He found that a method is to float on the interior of concrete walls with ordinary plaster of lime and sand mortar (about 3 of sand to 1 of lime), lightly keyed in the usual manner to receive the final setting coat.

(Continued on page xi)

(Continued from page 196.)

nd 1 coat must be left until strong  
ure from the thumb makes no impres-  
It may be necessary to leave it for  
al days, according to the weather.  
finishing coat of lime, putty, sand, and  
er of Paris may then be applied with  
y. Immediately before this latter  
sets, it should be finished with a soft  
brush, which produces a granular  
ce—a further method of absorbing  
ture.

ne finishing coat is known in some dis-  
as "plasterer's skimming." It is also  
n as "limed plaster." The propor-  
depend on the quality of the lime  
a varies in different districts. Mr.  
r-Greenwood has discovered that the  
and most easily obtainable skimming  
bsorption was the following:

parts of lime putty or chalk lime.  
parts of washed sand.  
part of plaster of Paris.  
gives a good finish, sets well, and  
s quickly.

ead of making dense concrete for  
it is much cheaper and more  
mic to use a very porous concrete,  
to render it with a cement watered  
exterior coating, for the fiercest  
g rain cannot penetrate a  $\frac{3}{4}$  in.  
ed cement rendering. Porous con-  
like all porous materials, has also  
quality of retaining the heat en-  
ered in the room, thus giving a  
er dwelling. Therefore porous con-  
has the dual advantage of assisting  
bsorption of condensation and of con-  
g heat.

Kerner-Greenwood, we understand,  
e pleased to hear from any person  
s interested in his investigation into  
fect of the absorption of various  
ring materials.

#### *Branch of Messrs. Winget, Ltd.*

consequence of the rapid growth of  
business as manufacturers of con-  
machinery, Messrs. Winget, Ltd.,  
added a North of England office to  
numerous branches at home and  
d. The address is 40, Albert Road,  
esbrough, where Messrs. Winget's  
ecretary, Mr. Calvert Griffiths, acts  
anager.

#### *Winning the War in the Gas Works.*

the occasion of the Association's  
th annual meeting on Wednesday,  
er 16, the Vice-Presidents and mem-  
of the General Committee of the  
h Commercial Gas Association and  
distinguished guests, among whom  
Sir Dugald Clerk, K.B., Sir Arthur  
hman, Bart., Sir Arthur Duckham,  
aniel F. Goddard, P.C., M.P., Sir  
D. Jones, Bart., Mr. H. E. Jones,  
lent of the Institution of Civil En-  
s, Sir A. Steel Maitland, M.P., Sir  
ton Redwood, and Mr. Milne Wat-  
ere entertained by the President, Sir  
well Rogers, J.P., Chairman of the  
ngham Corporation Gas Depart-  
at a private luncheon to meet the  
ing President, Lord Moulton, P.C.,  
3., F.R.S.

Hallewell Rogers, in the course of  
marks, said: We had the oppor-  
in Birmingham on the occasion of  
Win the War" day of demonstrating  
public the large amount of work  
as being done by the Birmingham  
undertaking in connection with the  
For instance, we told them, through  
edium of notices posted up on motor  
s containing representative women  
s in our department—  
at fourteen thousand, million cubic

feet of gas had been used in Birmingham  
for the manufacture of munitions during  
the War.

That the raw material for explosives ex-  
tracted from Birmingham gas since the  
outbreak of war was equivalent to 9,000  
tons of t.n.t., lyddite, etc., sufficient to  
fill twenty-five million eighteen-pounder  
high explosive shells.

That the gas was essential for the pro-  
duction of aeroplanes, tanks, guns of all  
descriptions, shells, armoured cars, trans-  
port wagons, munitions of all kinds,  
trench mortars, hand grenades, torpedoes,  
mines, and a thousand and one other  
implements of war, and that our artillery  
and airmen were dependent on the gas  
works of the country for the supply of  
high explosives for their shells and bombs.

And that in addition the food produc-  
tion has been helped by several thousand  
tons of sulphate of ammonia manufactured  
at our works.

Speaking during the proceedings, Sir  
Dugald Clerk, D.Sc., in proposing  
"Prosperity to the Gas Industry" (in  
place of Sir Albert Stanley, the President  
of the Board of Trade, who was unable to  
be present), said it was doubtful if the  
successful results which were following  
our last year's fighting would have come  
about at all without the assistance of the  
gas industry. The industry had, too, done  
very great things for the country, apart  
from the War. It had a history of over a  
hundred years; and now carbonised about  
twenty million tons of coal a year.

The toast was replied to by the Right  
Hon. Lord Moulton, K.C.B., G.B.E.,  
F.R.S., Director-General of Explosives  
Supplies in the Ministry of Munitions, who  
remarked that, when the War began, much  
as we believed in our country, we felt that  
we were going to be tried to our utmost.  
We then felt that we were thrown entirely  
on our own resources—that no wealth, no  
friendly relations even with foreign  
nations, could really help us. It was just  
then that he made his intimate acquaint-  
ance with the gas industry; and he now  
realised to the full how much that indus-  
try had done for the country, and how  
little thanks they had received for it. There  
was no supply of high explosives in 1914  
which would have enabled us to resist the  
Germans had they come straight on; but,  
fortunately, they gave us breathing space,  
and then the services of the gas industry  
commenced. It was an enormous domain  
that the gas industry ruled over. When  
the war came we felt that the help of the  
industry was priceless, but we ought to  
feel it priceless also in times of peace. Its  
real value should be made known.

## COMPETITION.

### *Projected Zeebrugge Memorial.*

A proposal has been submitted to the  
General Council of the Anglo-Belgian  
Union by Monsieur Eugène Standaert,  
Deputy for Bruges, that the Union might  
undertake to promote a competition for  
the design of a monument which it is pro-  
posed to erect on the Mole at Zeebrugge  
as a memorial of the heroic landing of the  
officers and men of H.M.S. *Vindictive*  
on April 23, 1918—St. George's Day. The  
design for this monument will be open to  
competition by artists and sculptors of  
Belgian and British nationality. A com-  
mittee has been formed to carry these pro-  
posals into effect. Full details of the  
competition will be published at a later  
date. The address of the Anglo-Belgian  
Union is 6, Burlington Gardens, W.1.

## WINCHESTER WAR MEMORIAL.

Mr. Herbert Baker has prepared plans  
and drawings of the Gatehouse, Memorial  
Cross, and new approach to the west front  
of the cathedral—which is the first por-  
tion of a scheme adopted by a committee  
who (under the presidency of Earl Sel-  
borne, K.G.) have been considering the  
subject of a County War Memorial to  
fallen officers and men of Hampshire  
units, both naval and military.

The portion to be dealt with is the broad  
path which leads down to the great west  
door of the cathedral from the further end  
of Great Minster Street, where it is joined  
by Symonds Street, Little Minster Street  
and Minster Lane running in practically  
at the same point. It is said that a  
Roman villa was traceable just by. At  
present there is a single bar gate across  
the entrance, which, as a rule, is kept  
closed, pedestrians passing in between two  
upright iron pillars. The distance to the  
west door is a little over 220 ft. On the  
south side is an ancient wall (behind Arch-  
deacon Fearon's residence), which con-  
tinues along Symonds Street and down  
one side of St. Swithun Street, forming  
what is known as the Close Wall. This  
wall is not, however, to be interfered with.

On the north side of the path there will  
apparently have to be removed three very  
fine trees (two limes and one plane) and  
two monumental gravestones, one to  
James Robbins, who died in 1844, and his  
wife, and the other to Thomas Godwin,  
who died in 1849, and his wife. It is also  
contemplated to alter the level of the path  
as at present, and so do away with the two  
steps, which are admittedly undesirable at  
the west entrance of the cathedral. The  
single bar gate and pillars at the top of the  
path are to be removed, and here will be  
erected the proposed gatehouse. The ex-  
pression "gatehouse," of course, implies  
more than a mere gate, and it is intended  
there shall be a double archway, on each  
side of which would be two vaulted bays,  
with tablets on the walls capable of being  
inscribed with from 15,000 to 18,000  
names.

Judging from the drawings, the outline  
of the actual gate, as seen from the ex-  
terior, is that of a perpendicular arch. The  
building will be of flint and stone, to har-  
monise with the old wall adjoining. The  
gatehouse will be entered from the road-  
way by two steps, and at the exit is a  
step or steps down to a gravelled space,  
by the side of which four trees are to be  
planted which, in time, will grow suffi-  
ciently large to form a kind of avenue, so  
that from the gatehouse the western front  
of the cathedral will have the appearance  
of being enframed. Beyond this gravelled  
space other steps will lead down to what is  
proposed shall be a sunk paved court. In  
the centre of these steps will be a Memorial  
(Celtic) Cross, standing on a stone base  
the height of the steps, on which there  
will be an inscription. The cross faces the  
centre of the west door. This paved  
court will have on one side the present old  
high wall, and on the other side low walls  
are to be built, and it is suggested that  
there may be flower beds against the  
walls, planted with flowers such as are  
grown in France—roses, lilies, lavender,  
rosemary, pinks, etc. From the paved  
court steps again will lead down to  
another large gravelled space immediately  
in front of the cathedral, and on a level  
with the floor of the nave, the idea being  
that this space may be necessary in the  
case of ceremonials, while it would still  
leave available the carriage approach from  
Market Street.



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# THE ARCHITECTS' AND BUILDERS' JOURNAL.

OCTOBER 30, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1243.

## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in saving the efforts of the Government Paper Controller to eliminate waste. This they may do in one of two ways—*

*By placing a direct subscription for the Journal with the Publisher, or*

*By placing with a newsagent an order for its later delivery.*

FROM time to time we have deprecated the multiplication of forms of building contract. At least three forms were already on the stocks, and the advent of peace, when their opportunities for causing confusion and muddle will be all that could be desired by the most ardent of marplots. In the meantime there is launched upon a long-suffering public the "First Report of the Treasury Standing Committee on Co-ordination of Departmental Action in regard to Contracts (Colwyn Committee)." The "First Report," be it noted. Goodness knows how much more this threat involves. We could have done without this. It is a desolating document from every angle it is regarded. True, one catches it with a certain degree of suspicion, not only prejudice, partly because there should have been no need for it at all, partly because it is so belated, and partly because the signatories do not inspire the least degree of confidence as to their competency to determine the questions at issue. There are five of them—all architects or builders, it might reasonably be assumed; but their names carry no assurance that three out of the five know anything about building than what they have been able to pick up in the course of this inquiry.

With unblushing effrontery, this Report, dated August 29, 1918, begins: "At the instance of His Majesty's Treasury the Committee has had under consideration the question of the most suitable and economical form of contract for construction work in general." And the war began in 1914!—is, we all know, nearing its end. After four years of feverish construction, on which millions of money have been expended—there would be few dissentient voices if we questioned the Government begins to consider the question of the most suitable and most economical form of contract! This inquiry is very nearly an understatement. Equally rich is the brazen impudence of the sentence: "The Committee has had the advantage of hearing in the course of its inquiry numerous representatives of the Admiralty, the War Office, the Ministry of Munitions, the Air Force, and the Office of Works. An immense amount, truly! If the thing begins to look really farcical, that is the fault of the Committee, who offers no plain evidence that either it or the members know anything whatever about building construction. For aught that appears on the surface, the blind leading the blind. Of course we are not to suppose that the Admiralty, the War Office, the Ministry of Munitions, and the Air Force team architects and builders, and we are equally ready to assume that the Committee was thoroughly well qualified to examine them in the technics of the contract, but we are at a loss to understand why all this

expertness has been so sedulously camouflaged. Why mislead the public into the suspicion that expert knowledge of the subject was a disqualification for Committee or witnesses? We cannot believe, and therefore we do not ask anybody else to believe, that this inquiry is little better than a laborious joke—not a practical joke, however. But why convey that impression in the report?

It must, indeed, be obvious that, in the course of four years or so of blundering and floundering, the most unintelligent of admirals, or generals, or munition controllers, or airmen, must have picked up quite a lot of useful information about contracts, and that they would unload it freely and frankly on a Committee that was in a position to sympathise with them. From this fantastic hugger-mugger we except the Office of Works, which set about its business and gave its evidence in a very workmanlike way, because it knew its job, and was but little, if at all, subject to the ignorant control of naval and military officers who, in too many instances, do not seem to have known enough to seek expert advice and assistance.

Five types of construction contract were found by the Committee to be in use at the present time—namely, (1) Lump Sum or Fixed Price; (2) Schedule of Rates; (3) Cost plus profit on sliding scale, increasing with economy, with or without upward limit; (4) Cost plus fixed amount for profit; (5) Cost plus percentage. Most Government contracts recently placed are, the Government finds, cost contracts in which the contractor usually receives as profit a percentage of the total cost of construction, "thus giving him a direct incentive to run up the cost of the work." There have been bitter complaints in the Press and elsewhere of the riotous extravagance to which this type of contract has led on Government work; but the Office of Works would have none of it. From the beginning of the war their contracts had been on lump-sum and schedule-of-rates tenders; the Office of Works, however, assuming responsibility for any rise in the price of labour or material, as well as for any excess of wages due to overtime work. Moreover, the Office of Works undertake to ensure the regular and punctual delivery of material; so that the contractor working for them would seem to be in clover.

It was not apparent to the Committee, however, that these lump-sum contracts are on the whole more economical than cost-plus-percentage contracts placed with proper safeguards, which are thus indicated: "As a means of countering the very objectionable principle, 'the greater the expenditure the greater the profit,' the Committee recommends that whilst the contractor is recouped his ACTUAL expenditure properly incurred on the works (subject to what is mentioned below), his profit shall be a fixed sum based on a percentage of the ESTIMATED cost of the works, this estimate being prepared by the Government Engineer either on the commencement of the works or alternatively in an early stage of construction, after the plans and quantities have been worked out with some degree of accuracy. By this means the profit will be fixed when the contract is placed, and will not vary with the actual expenditure." Apparently "what is mentioned below" is the recommendation



that the contractor shall be compensated "by a fixed sum being an agreed percentage of the estimated cost of the labour employed." No establishment charges would in that event be included in the estimated cost on which the contractor's profit would be calculated. In this connection a line should be drawn clearly dividing administration from labour. The Committee further recommends that the hire of plant should also be excluded from such estimated cost. Plant is to be provided by the contractor at an agreed rental of so much a month; but the rental is not to exceed in the aggregate a fixed percentage of the estimated cost of works. "Two per cent. a month on the value of the plant brought on to the works would seem under ordinary conditions to be a reasonable rental, with a maximum, say, of 5 per cent. on the total estimated cost of works." If it were found necessary that Government should supply the plant, "it would be well to insert a provision enabling Government to call upon the contractor, on the termination of the work, to purchase the plant, where suitable for general post-war purposes, at cost less a reasonable depreciation."

\* \* \* \*

It was well to express those very contradictory terms "actual" and "estimated" in majuscules. How is the actual expenditure to be ascertained? Must the contractor show his wages sheets? And if the Government Engineer (why not the Government Architect?) under-estimates the cost of the works, as engineers and architects have been known to do, what is to compensate the contractor for his loss of profit? If, on the other hand, there is an over-estimate, the contractor gains more than he is entitled to. There is in this arrangement, it must be admitted, a gambling element that would appeal strongly to mundane minds if it were not so deadly certain that, ninety-nine times out of a hundred, the Government, or whoever is acting as croupier, will rake-in the stakes. In any case, it is certain that by this system the contractor will, as a general rule, get either more or less than he deserves. But the perfect system of contracting has yet to be evolved. On the whole, we are disposed to regard paragraph 17 in the report as covering this difficulty. It reads: "The Committee would further emphasise the absolute necessity of maintaining the ordinary safeguards, such as the preparation in advance of adequate and complete plans and specifications, and that contractors to be employed, particularly on extensive works, should be selected as far as possible from firms of experience and repute. Those contractors who in pre-war days have been dependent on economies for their livelihood, and who after the war intend to return to the same methods of business, cannot afford to allow their staffs to form the habit of working on extravagant lines. The most important safeguard, however, is that a close supervision should be maintained over the work as it proceeds, with an efficient control and check on the cost of labour and material."

\* \* \* \*

Of late, much has been said against the cost-and-profit system of contracting, which has been very unjustly made the scapegoat for all sorts of Government ineptitude in building, in much of which there has been no proper control or supervision. Proper supervision is a cardinal principle of good and economical building, or of good and economical work of any variety. What would the stability of a reinforced-concrete building be worth if the work was not kept under close supervision? Now, the lump-sum contract, obtained by tender, is often lauded as the most satisfactory system yet devised. It is certainly more prevalent than perfect. Its most serious fault, lying at its root, vitiates the whole tree—stem, branch, and leaves. We mean, of course, that it is usually based on competitive tendering, which leads to

obvious evils, the lowest tender often cutting things fine that it is impossible to make a profit on the work without reducing its quality. With respect to the cost system, it has been recently alleged, as regards Government contracts, that it led to slack supervision and to slowness among the workers. It may have been so in Government work, in which most of the conditions were abnormal and exceptional. Results under such conditions cannot be fairly cited against the system of contract, whatever it may have been under which they were obtained. Those results do not arise out of the system of contract, but out of the exceptional circumstances. Ordinarily, given a builder with a reputation to maintain, the cost-and-profit system works out economically, for it eliminates many occasions of worry and expense. It eliminates also the evil of keen competitive tendering, and to that extent makes for honest quality in materials and workmanship. In paragraph 13 of the Report, the Committee "is of opinion that, except in very special cases, the percentage or amount of contractors' profit should be fixed by competitive tender." If contractors, otherwise, they will not thus fatuously underbid each other. It is a mean and degrading suggestion, whether or not it is supported by precedent, and it is not strictly consistent with the recommendation, already cited, that "contractors . . . should be selected as far as possible from firms of experience and repute." Firms deserving that description will not join in this wildly exciting game of bidding from five down to zero. Perhaps it is expected that, for patriotic reasons, some will bid below zero—will be willing to pay the honour and privilege of doing the work.

\* \* \* \*

Clauses 18 to 23 of the Report are instructive and portentous. They recommend, respectively, the appointment on every extensive contract of a resident officer authorised to act for the Department; the formation of an adequate Departmental Staff to ensure strict observance of the terms of the contract; Departments having an adequate expert staff and necessary plant to undertake their own construction work; further centralisation—"The Committee are no means sure that it may not ultimately be found expedient to establish a single Construction Branch to deal with ordinary building construction work emanating from all Government Departments"; the standardisation of contracts and designs—"The Committee is of opinion that experienced legal draughtsmen from the various Departments should at once meet and draw up a standard form of contract and standard clauses incorporating these recommendations for general use as far as possible"; that designs and specifications should be co-ordinated and standardised as far as possible, between the various Departments where construction work of any similarity is being undertaken; finally, it is recommended that a standard committee should be formed, consisting of the heads of the construction branches of the various Government Departments, with an independent chairman, and such committee should meet regularly to discuss the many questions that must arise from day to day in order to agree on uniform lines of procedure. These six recommendations would alone afford the plainest possible indication of the irresponsible character of this committee. The advice shows bureaucracy rampant, and reintroduces in a more virulent form the chief evil against which the organised builders, and, indeed, all private traders, have been fighting tooth and nail for a quarter of a century—that of communal trading. This menace of municipal trading, having been scotched if not killed when the notorious Works Department of the London County Council was demolished, it is now suggested that traders should face still more formidable rivalry. Government Departments are to compete against them. We shall recur to this extraordinary Report next week.



## HERE AND THERE.

On October 25 the centenary of the Old Vic was celebrated, and on that day the Queen honoured the performance. They are again getting very respectable at the Old Vic. In the days of my youth it was a passing fashion for young men—some described in the reports of subsequent proceedings in the police court as "well-dressed rowdies, said to be respectably connected"—to go to the Old Vic to aff the actors and brave the storm of abuse from the men in the gallery who waxed indignant at this gross infringement of their prescriptive rights. It is a priceless psychological phenomenon—rowdy-incarnate clamouring for decorum, Satan sternly rebuking sin. In theory, the Victoria playgoers were unpromising sticklers for virtue. If, in the lurid light of the ultra-diabolical villain had not been properly presented before their eyes, they would have done violence to him with their own hands. In fact, they have been known to further the ends of morality by hurling imprecations—and stone-gingers—at him. They would call him before the curtain with the object of flogging, hooting, and pelting him, and in return he would shake his fist and fling murderous glances at the gallery, which was packed with fuddle-headed creatures of impulse.

Waterloo Bridge was the innocent cause of the Victoria Theatre—or, rather, of the Coburg, as it was then called; for the construction of the bridge gave rise to much building on the southern side of the river, which prompted the erection of a new theatre there, just opposite, probably, the existence of Blackfriars Bridge had prompted the erection of the Surrey Theatre. It is not that the Surrey-side approaches to the bridges are invariably squalid? In any case, the new theatre at the corner of Waterloo Road and the New Cut is an offshoot of the Surrey Theatre. Messrs. Jones and Dunn, who rented the Surrey from Messrs. West at two hundred guineas, asked him, in 1816, for a renewal at £600. He wanted £4,200, and Messrs. Jones and Dunn thereupon resolved to build another. In this enterprise they were joined by J. T. Serres, who put two thousand pounds into it and lost money. Serres, the son of a foundation member of the Royal Academy, was himself Marine Painter to the King, through whom he obtained, directly or indirectly, permission to name the theatre the Royal Coburg. Rudolph Cabanel, a native of Aix-la-Provence, was the architect, and it is said that in consolidating the swampy foundations ("Lower Bank" is no fancy name for the next street to the New Cut) he used much stone from the old Savoy Palace, which, built originally by Simon de Montfort, was demolished to form the approaches to Waterloo Bridge.

Centuries before the Surrey was built, there were, of course, many theatres on the right bank of the river. In Shakespeare's day, Bankside swarmed with what may be called places of entertainment of one sort or another. As Mr. Fairman Ordish says, in his *History of London Theatres*, "Bankside was then essentially a pleasure resort. There was a bull-ring in the Strand, and 'the influence of such structures in determining the round shape of the earliest playhouses was considerable, but secondary.' He thinks it impossible that the bull-ring was on the site of an amphitheatre. Paris Garden, where bears were kept for baiting, was between Bankside and Newington Butts, but its existence is merely potential from the record that plays were performed

in the district. Whether or not there was a theatre there is perhaps incapable of proof either way, and we must rest content with what Mr. Ordish terms "the strong presumption there is of an unrecorded dramatic history in connection with Newington Butts." In 1587, old Henslowe contemplated building the Rose Theatre. I wonder whether he got the wood for it from Ashdown Forest, in Sussex, where his father was gamekeeper. From the fact that in 1594 Henslowe was producing plays at Newington, it is conjectured that possibly he may have been the proprietor of a theatre there; but there were inn yards that served the players' turn before Burbage began to build theatres; and there were no doubt many inn yards about Newington Butts, because archery was ever a thirst-provoking pastime, and, besides, there are hereabouts several main-travelled roads, including that to Canterbury, along which Chaucer's pilgrims (and others) passed from the Tabard in the Borough.

Henslowe entered in his very rough but historically most valuable diary some interesting particulars about the construction of the Rose: as, "Item paid the nailer for four days 4s. 4d." Whence the wood was brought by barge is not stated. Deal-boards, quarter-boards, and inch-boards are mentioned; and there are entries of lime, mud, "chake," and bricks; of payments for laths, and wages to the carpenter. Henslowe believed in painting, and has this entry: "Item paid for payntinge my stage xjs."; while in a 1595 account he has many payments for such work. I know not whether Henslowe's diary has been thoroughly ransacked by an architect or builder for the extraction of the prices paid for materials and labour. Mr. Walter Godfrey, I suppose, has handled the precious document, but probably with another purpose than that of ascertaining prices. The most famous of the Bankside theatres, the Globe, was, it will be remembered, built by the Burbages from materials taken from the theatre over the water, which they demolished *vi et armis*.

According to the *Era Almanack*, the first stone of the Coburg was laid on September 14, 1816; and it is stated in a most interesting booklet ("The 'Old Vic,'" by John Booth: Stead's Publishing Company) that the theatre was opened on Saturday night, May 9, 1818, when, however, the performance was rather of the character of a dress-rehearsal, the actual opening night being Monday, May 11—Whit Monday. In the bill announcing the opening, "the Nobility, Gentry, and the Public in general," were respectfully informed that the above new and splendid theatre had been erected according to the plans and designs and under the superintendence of that celebrated architect Mr. Cabanel; that the audience part of the theatre would be lighted by a superb central lustre, while others of a most costly description would shed a beautiful and brilliant Light over the whole House; that the Decorations of the Interior, and Grand Panoramic Marine Saloon were designed and painted by Mr. Serres, Marine Painter to His Majesty; and that the Ceiling and Proscenium were designed by Mr. Cabanel and executed by Mr. Latilla and assistants. Cabanel painted some of the scenery, and so did Clarkson Stanfield. Its name was changed to the Victoria in 1833. Its decorations have become tarnished; but, under Miss Cons and Miss Baylis, it has gained a fresh lustre—from the character of the performances given there: Grand Opera and the legitimate drama.

DIOGENES.



## THE FATE OF SHAFTESBURY.

BY C. H. B. QUENNELL, F.R.I.B.A.

IN an article published in this Journal on October 9 attention was drawn to the sale of the above town.

An attempt was made, by quotation from newspapers, to construct a picture of what had happened; to find out how it was possible for a town with 2,500 inhabitants to be sold as neatly and expeditiously as the same number of potatoes. All quite right and proper of course; only buying a town touches the imagination.

The "Daily Telegraph" of September 4 gave us the general information that Messrs. Knight, Frank, and Rutley "announced that the greater part of the town of Shaftesbury had been sold privately to Mr. James White." Such are the activities of this remarkable firm, that they will be selling England to somebody soon. We are none of us really safe. Lord Stalbridge, who was the owner of Shaftesbury, got tired of it, or of landowning, or wanted cash to "Feed the Guns." A dozen such might sell a county; the prospect is terrible, but is, after all, another story.

In selling Shaftesbury Lord Stalbridge announced that the Mayor and Corporation were to have a prior right to buy at a reasonable price, and, failing them, the individual occupiers; there must have been something noble about this, because the "announcement was received with loud applause"; but the details appear to have been sketchy.

From the "Daily Chronicle" of September 5 we found that Mr. James White had paid £75,000, or £30 per head of the population, on behalf of a small syndicate, and that he, on their behalf, was willing to re-sell to the Mayor and Corporation for £80,000. That they had been given a seven days' option at this figure—a compliment to the 2,500; their price was going up.

On September 10 the "Evening Standard" informed us that "the purchase of Shaftesbury has been settled to the satisfaction of the tenants and townspeople," and that was as far as we could get, until a Dorset acquaintance sent a copy of the "Western Gazette," and here it is—all nicely set out:—

"Considerable interest is being displayed in the ultimate ownership of the town of Shaftesbury. It was purchased, it will be remembered, by Mr. James White, of London, for £75,000, with certain stipulations as to its disposal, Mr. S. B. Joel and Mr. A. L. Ormerod being associated with him in the enterprise. We understand that the question of purchase by the Corporation was laid before the Local Government Board, but the reply from that authority was not favourable to the proposal.

"Meanwhile the question of the formation of a local syndicate to re-purchase the whole of the property was discussed, with the result that Mr. R. W. Borley (who has thrice been Mayor of Shaftesbury), Dr. W. J. Harris (the present Mayor), and Mr. Herbert Viney have acquired the town on behalf of the tenants for £80,000—a price below the maximum for which Lord Stalbridge thought it ought to be sold."

The first interesting piece of information is that the Local Government Board was approached, and apparently did not encourage the Corporation to buy their town. Here we cannot help thinking the Board was at fault. Why let a little money stand in the way? So much more is at stake than £ s. d. It is such a sound instinct which has moved the community in the direction of housing—almost a renaissance of the spirit which prompts us to begin the rebuilding of the social structure first in the home.

The Government has committed itself to promises of assistance in new housing schemes, with just this same end in view, of creating communities and encouraging social life. At Shaftesbury we have a charming old

town, ready made with great traditions behind it called for some guidance and assistance; asked it might no longer be made sport for the speculator seemed to offer a quite admirable opportunity for experiment, but the official reply was "not favourable. What a pity!

So another syndicate has to be formed, and in place of White, Joel, and Ormerod, who now retire with their £5,000, we have Mr. R. W. Borley, Dr. W. J. Harris, and Mr. Herbert Viney. Mr. Borley is a Whittington of Shaftesbury, in that he has been three times Mayor. Dr. Harris is the present Mayor, and who Mr. Herbert Viney is we are not told, but we have no doubt that they are all good men and true, determined to do the very best that they can for the 2,497 souls in Shaftesbury, who, we understand, are wondering what fate has in store for them.

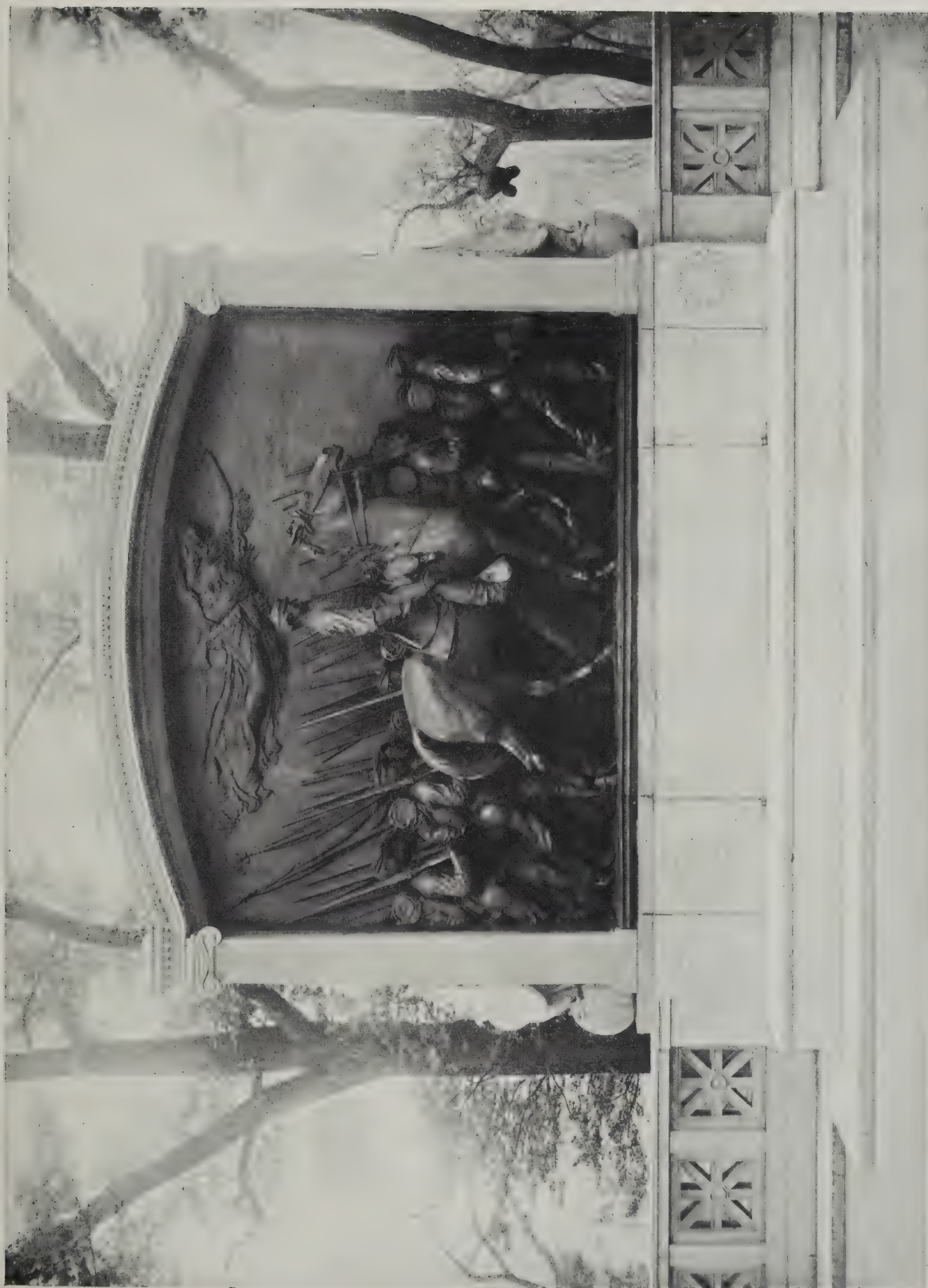
So far as the first syndicate is concerned, their only interest now is that they constitute a perpetual charge on the town of £250 per annum on a 5 per cent basis; from now on to the crack of doom the people of Shaftesbury must produce this amount. It is a perpetual charge, and when you come to think about it a rather stiff one for Shaftesbury, because all they got for it was seven days in which to say "Yes" or "No." Their options are not edible.

Lord Stalbridge offers cold comfort, in that he points out that even at £80,000 the town was cheap in fact, tells Shaftesbury they have done well. He sold them for £30 a head, and the price has already gone up; they now fetch £32. We will give Lord Stalbridge credit for the very best intentions, as we do White and Co.; it is all quite fair and square and legitimate business. It was felt that the townspeople should be given some chance of settling their own destiny, and conditions were laid down in connection with the £75,000 sale. It would be of great interest if these could be published. The announcement was received with applause, but cheers die down, and now Shaftesbury now wants to know its position with regard to the second syndicate. The "Western Gazette" says the latter association has bought "on behalf of the tenants"; our information is that, while Shaftesbury in no way doubts the bona-fides of the syndicate acting on the town's behalf, the tenants would yet be relieved if the question of their security of tenure could be settled without a doubt. And it really must be admitted that they have reason to feel a little jump.

There may be other people about to whom the attraction of £5,000 for seven days' option is attractive; the clever business man might come along and say, "What, only £80,000! a scandalous proposition. I have looked at Shaftesbury, admired its beauty, noted the vigour of the 2,500. I am sure they can produce largely. I will not pay them so poor a compliment." Now, to have speculators haggling over your home is in reality not much more pleasant than to stand in the market place as livestock yourself. The temper of the country will not endure it much longer. It is not right or proper.

Let us see what it means; even at the enhanced price of £80,000, and again on a 5 per cent basis, Shaftesbury needs only produce £4,000 per annum to pay a sufficient interest on such capital expenditure. If we divide the £4,000 by the number of the 2,500 inhabitants, we find that it only means an annual charge of £1 12s. for each of the men, women, and children. And yet the Local Government Board would not assist the town to become masters of its own destiny. One wonders if this really was the case; if so, their heads must be wooden, and should well be thumped by somebody.

Mr. Hayes Fisher wants to go down to posterity

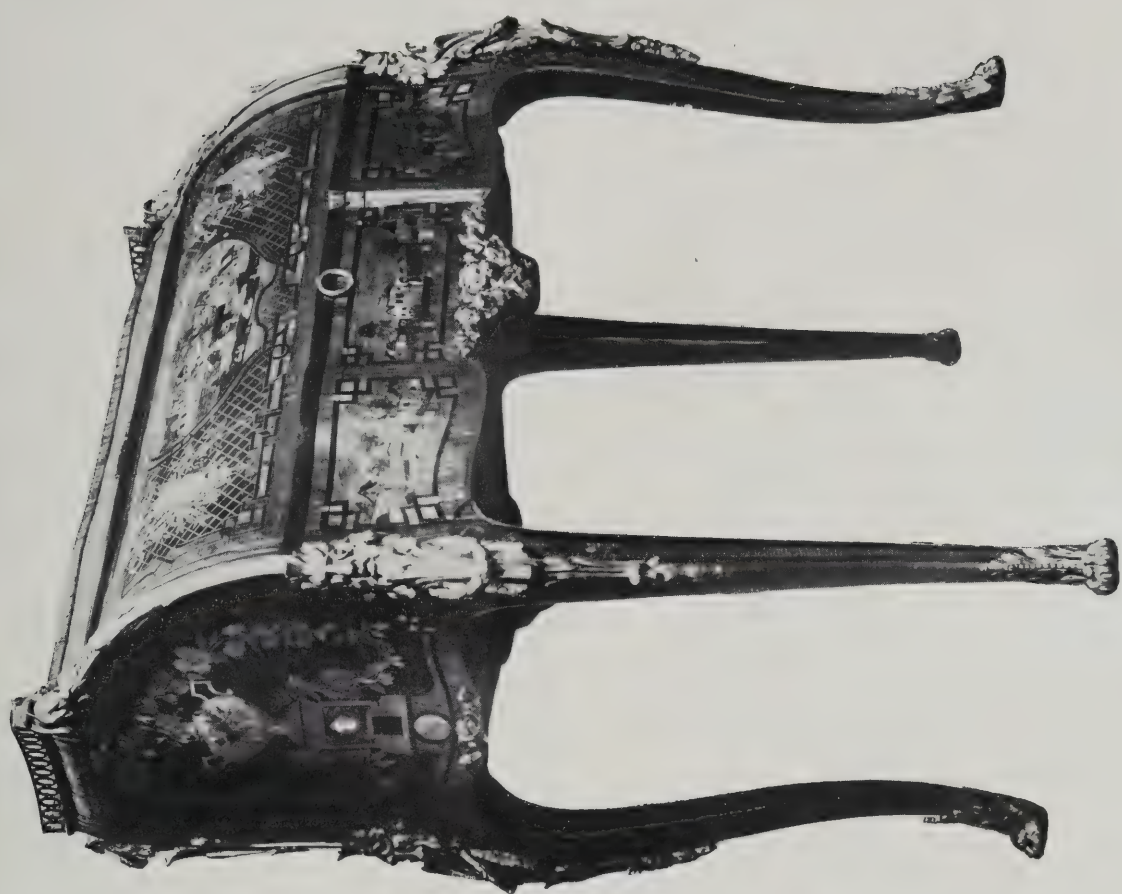


MONUMENTS. XLIII.—MONUMENT TO GENERAL SHAW, BOSTON, MASS.

MCKIM, MEAD, AND WHITE, ARCHITECTS. AUGUSTUS SAINT-GAUDENS, SCULPTOR.







Ecrtoire à Toilette.



Encoignure.

FURNITURE. X.—TWO FRENCH EXAMPLES (LOUIS XV. PERIOD).







Louis XIV. Period.



Louis XVI. Period.

DETAILS OF CRAFTSMANSHIP (SERIES III.). XLIV.—TWO FRENCH PANELS IN CARVED OAK.

*(Reproduced by courtesy of the Director of the Victoria and Albert Museum.)*





B

Arch,

DEC 2 1918





ARCHITECTURAL MONUMENTS IN THE WAR ZONE. IV.—MARCO  
HOTEL DE VILLE, AND T



ONS IN THE PLACE DE BRAAMBERG, BRUGES, WITH THE BELFRY,  
FRANC IN THE DISTANCE.





man who settled the housing problem. If he can so he will be allowed to cover his coat with medals and decorations. Shaftesbury affords an admirable opportunity to start earning the same.

Now as to what it is proposed to do. The suggestion is thrown out in the first article, that the position one which could be well met by the formation of a Public Utility Society; and, again, our information is the effect that this idea has met with approval in Shaftesbury. To this end, and solely with the idea of assisting the town, Mr. E. G. Culpin, the well-known authority, has promised to write an article lining the course of action to be followed, and in which he will deal with the matter on a far more critical basis than is possible to the present writer. It is felt that his contribution will be of real value. Copies of the three articles will be sent to the bishop and clergy of the town, the leading townspeople, and the Press, and an attempt will be made to stir up public opinion. Towns, and the people in them, are not much longer to be bought and sold in this cold-blooded way; the problems with which the country is confronted are so tremendous, the issue so vital. We need a contented, happy people, willing to work, and ready to lend a hand in that increase of production which is to pay for the war. How can it be done if homes are liable at any moment to afford sport for a few?

## THE PLATES.

### *The Shaw Monument, Boston, Mass.*

THE monument at Boston to General Shaw and the officers and men of the 54th Regiment (the joint work of McKim, Mead, and White and Augustus Saint-Gaudens), represents an incident in the American Civil War. Saint-Gaudens delayed the work considerably, regarding it as his masterpiece, and spending his utmost efforts upon it. It was finally completed in 1902. It is a very striking composition full of vigour and rhythmic movement. So fine a piece of sculpture seems to demand a better framework than that which the architects have given it.

### *Louis XV. Furniture.*

Both these exquisite examples of French furniture belong to the Louis XV. period. The *encoignure*, simple in its outlines, is perfect in its proportions, and its decorations exhibit admirably the peculiar characteristics of the style. Cabinets of this shape are somewhat rare in the Louis XV. period. The *escritoire à l'antique* is historical, having at one time been the property of Queen Marie Antoinette. It is of tulip and mahogany wood, inlaid with a landscape, trophies, shells, and flowers in plain and tinted lime, holly, and cherry woods. In design the piece is full of graceful curves. The mountings are of highly chased ormolu. The cylindrical front encloses fittings and drawers, which are also inlaid. A sliding shelf pulls out under the front. The drawer, which has a finely shaped and decorated front, is divided into three compartments with inlaid lids, two of which are fitted with toilet accessories. The height is 3 ft. 5 in. and the width 18 in. The original cost of these pieces was undoubtedly very high, but now, as antiques, their value is prodigiously enhanced.

### *Two French Panels.*

The first of these panels is of the Louis XIV. period (the seventeenth or early eighteenth century). It is of oak, carved in openwork, with scrolling bands and scrolls symmetrically arranged. The second is of the Louis XVI. period (late eighteenth century), and is of red oak.

### *The Marché aux Poissons, Bruges.*

Some notes on Bruges, now happily delivered from the Germans, appear on page 202.

## CORRESPONDENCE.

### *Proposed Federation of Architects, Surveyors, and Others in Temporary Government Employment.*

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—It is suggested that some scheme should be initiated whereby all architects, surveyors, constructional engineers, etc., temporarily engaged in Government Offices could be united in one strong association.

The objects, *inter alia*, of such an association would be:—

1. To uphold the status and promote the welfare of professional men temporarily engaged in Government Offices, and to provide opportunities for association between them with a view to united action on all matters affecting their interests.

2. To consider the conditions likely to affect members of the temporary professional staff on the conclusion of hostilities, and particularly those relating to housing schemes and other national building work.

An association of this nature, comprising over 150 architects and surveyors (temporary) exists in H.M. Office of Works.

It is suggested that a similar association might be formed in each Government Department, where professional men are engaged temporarily, and all such associations be united in one Federation.

A provisional committee consisting of: Messrs. Alfred Cox, Fellow Royal Institute British Architects; H. V. Milnes Emerson, Associate Royal Institute British Architects; E. Ravenscroft, Licentiate Royal Institute British Architects; J. Teifion Williams, Member Society of Architects; H. A. Aitken; E. H. Brooks; D. Carmichael, has been formed to consider ways and means for putting this proposal into operation.

All professional men in Government Departments who are interested herein are invited to communicate with

FRANCIS H. WITTS,

Hon. Organising Sec. (pro tem.), c/o C. M. O. Scott, Esq., 2, Dean's Yard, Westminster, S.W.1

## COMMANDEERING ADAM HOUSES.

LORD ABERCONWAY, presiding at a meeting of the London Society last Thursday (October 24) to protest against the threatened appropriation of the Adelphi estate for the Air Board, said that they did not want the Board of Works to occupy more or less forcibly the houses in those old streets which for some generations had been objects of very great interest to all who loved London. "When you turn a large number of more or less irresponsible people—boys and girl clerks of the flapper type—whom we have seen in Government offices, running up and down stairs, banging doors, poking fires, handling coal-scuttles, and insisting on all kinds of adaptations of electricity and gas, there is no limit to the minor destruction of details," his lordship added.

Sir Henry Wood told of a home in which he was interested, and which was seized by the military. A young officer who was evidently suffering from swelled head told him that there was no appeal, and asked for the keys. "I refused, and told him that while he had force I would not give the keys up voluntarily. He went away, but I found that a sentry with fixed bayonet stopped me. The sentry thought it a huge joke, and when I asked whether he would stick me or shoot me he only winked. I eventually appealed to the War Office, got superior authority, and the whole matter was settled.



## THE LIBERATION OF BRUGES.

THE deliverance of Bruges, more or less intact, from enemy occupation, is a profound relief to all who have any appreciation of its significance as an architectural and historical monument. That it has been despoiled of all its portable metalwork in the frantic attempt to satisfy the Hun "metal hunger" is more than likely; that is a fate that has fallen upon all towns occupied by the enemy since 1914. But that the city in its larger elements should have been completely spared is truly remarkable, and may be the first indication of a significant change in German military policy. It is a puzzle to know, however, whether the sparing of Bruges is due to a change of heart or to the unrelenting pressure of the Allied forces. The latter is the more likely cause, for otherwise the callous destruction of other towns simultaneously evacuated is inexplicable. Whatever the reason, we must rejoice at the city's safe preservation. As the subject is of topical interest, we show in this issue some characteristic illustrations of Bruges as it appeared in 1914. The accompanying notes are extracted from a series of exceptionally interesting articles contributed by Mr. Arthur Stratton a few months ago to the "Architectural Review."

Bruges is unique. To speak of it as the "Venice of the North," as many writers have persisted in doing, betrays a lack of understanding of its predominant characteristics and tends to detract from its individual appeal. Bruges is no more like Venice than Chester is like Salisbury. Each owes its characteristics to the conditions underlying its growth; the waterways may be similar without their quay sides or shelving banks presenting any marked resemblance. Most British travellers have seen Bruges at one time or another, and felt the glamour within its walls, but to understand its peculiar attractions it is necessary not only to be familiar with the appearance of the city in modern times, but to know something of its beauty at the height of its fame.

In the march of progress impelled by civilisation, many towns and cities, once centres of activity, throbbing with the life of countless thousands engaged

in commerce and in manufacture, in the arts of peace and, above all, in the art of living, have been rolled to other shores. Such towns are Bruges and Ypres, once proud with their lofty towers proclaiming their power and independence for many years around, but in these latter days chastened, showing the greater part of their display, and mere shadows of their former splendour.

Bruges in the Middle Ages was one of the most powerful communal cities of Flanders, exercising immense influence over the fortunes of Western Europe at a time when cities now pre-eminent were little more than hamlets. Living amidst the plains and dunes of Western Flanders, the Flemings of those days were a hearty people, industrious and enterprising whenever commercial success was likely to crown their efforts. Conscientious in their work and religious by temperament, they brooked no interference with their rights, and knew no bounds to their ambition. But to such an extent were they jealous of their rights as citizens of a free city that half the history of Bruges and neighbouring cities of Ghent and Ypres in the Middle Ages is concerned with the struggles of one to safeguard its interests against the inroads of the others.

The early history of Bruges is stormy and turbulent; it bristles with siege and strife, with battle and intrigue, with victories won and losses sustained; but through it all there stands out clear and bright the Flemish love of freedom, to attain which he was willing—as he is to-day—to sacrifice everything but his honour.

He was not alone in his religious zeal, for that swept over the whole of Europe like a mighty wave, and over every land the Middle Ages have bequeathed great and wonderful works of architecture which were the direct outcome of that extraordinary burst of enthusiasm for religious expression; but nowhere in Northern Europe can one point to such a series of public and commercial buildings as those erected to serve the needs of the Communes and to proclaim the pre-eminence of the Flemings in the thirteenth, fourteenth



GENERAL VIEW OF BRUGES IN 1914.





HOUSES ON THE NORTH SIDE OF THE GRAND PLACE, BRUGES.

fifteenth centuries. Nowhere else were all the conditions calling for a systematised civic architecture so strongly in evidence.

Strange as it may seem, church building almost took a secondary place for a time—not that large and fully conceived churches were not erected, but that ecclesiastical work was eclipsed by the town halls, guildhalls, market halls, and all manner of secular buildings which arose in response to the calls of civic endeavour and domestic affluence. The inevitable tendency to borrow motives from the church builders of Northern France, where the master-masons were showing to the world what could be done with pointed arches and soaring vault, was too strong for the Flemish church builders to resist; but the case was different in regard to civic architecture, and a manner was evolved bringing very strongly the impress of local characteristics. So strongly, in fact, were these developed that they differentiate the architecture from that of any other country. First the belfries and *Halles*, and then the town halls and town houses, show this architecture at its best, for the Flemish builders were concerned primarily with towns and cities. It is in the town squares and along the narrow streets and beside the busy quays that one must seek the soul of the Flemish building craft, rather than in the open country or in the streets of the wayside villages. The world knows about the Grand Place and the belfry. The foundations of the existing belfry are said to have been laid about 1290, and the wings, which form the *Halles* and enclose the courtyard, as they were, were added in 1364. It was not till late in the fifteenth century that the square belfry tower was carried higher by the addition of an octagonal lantern and a lofty *flèche*. This metal-covered *flèche* was struck by lightning in 1493, but it was quickly set up again and surmounted by a huge vane, which most authorities agree was in the form of the lion of Flanders. The belfry, with such a rich termination, must have been one of the most gorgeous monuments

that ever pierced the western sky, but since 1741 it has been robbed of its proper culmination, for no attempt has been made since its destruction in that year to reinstate so vulnerable a feature, and the existing commonplace parapet and eight-angle pinnacles have had to suffice for just ninety-five years.

The mere fact that prosperity had passed from Bruges before the Classic Renaissance had reached its height accounts to no small extent for the city's retention of its mediæval aspect. The standard of taste changed. Classic purists became intolerant of the freedom enjoyed by generations of craftsmen, who knew no restraint other than that imposed upon them by the limitations of the materials in which they worked. Had the means been forthcoming the buildings lining many a canal and street would have been ruled into conformity; their varied gables would have made way for the exacting Classic cornice. As it happened, neglect was the fate meted them more often than demolition. But when occasion demanded a site was cleared, no matter how precious the heritage that stood upon it. That part of the Palais du Franc which had been rebuilt in the first quarter of the sixteenth century at the south-east angle of the Place de Bourg was destroyed and a new courtyard and façade built in 1722 from the designs of the architect, Verkruijs. It is a calamity that such a sumptuous brick building as the Palais du Franc, judged from the existing façade, with its three gables and pinnacled turrets seen from the Quai des Marbriers (see double-page supplement) should have been despoiled in favour of a commonplace Palladian structure. In one instance only has the Classic note been struck with telling effect, and that was about the year 1821. The *Marché aux Poissons* (see double-page supplement), with its Doric colonnades, designed by Jean-Robert Calloigne, is so strong in its simplicity, and so restful in its colour and composition that it serves as an excellent foil amidst so much that is rich and varied in colour and outline.





# WAR·BVILDINGS·SECTION.

## LAUNDRIES FOR LARGE HOUSES.

IN the design of a modern mansion house ample provision should be made for a laundry of a size sufficient to allow of the work to be executed under the most hygienic conditions. Strange as it may seem, this important administrative section is often accorded little consideration, with the result that, although the natural conditions for treating soiled linen are perfect, the space within the laundry is cramped and inadequate. At one period the laundry of a comparatively large mansion house consisted of two or three hand wash-tubs, a metal clothes boiler within a brick setting and heated by an ordinary coal furnace, and a wood roller mangle. Thousands of great houses are so equipped in their laundry department even to this day, but within the last ten years closer attention has been given to the science of hygienic laundering, with the result that many of the laundries installed by owners of country houses are as near perfection as it is possible to make them. In these notes the writer will deal briefly with the subject and will explain the latest developments in private laundries equipped with power-driven machinery, and comparable with the commercial establishments to be found in every town and city.

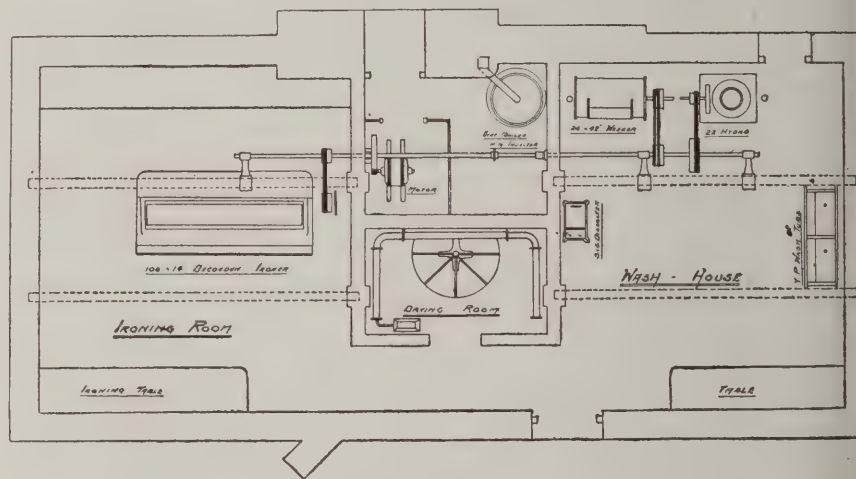


FIG. 1.—GENERAL ARRANGEMENT OF SMALL LAUNDRY.

Touching on the subject of the laundry building, it will be found that a long narrow structure consisting of one bay about 60 ft. by 15 ft. provides the most practical arrangement, lends itself better to the regular progress of the work from

receiving to despatch rooms, and is less costly than one of square formation. The main walls of a laundry building are usually about 11 ft. high, of brick, permitting a shafting height of 8 ft. from the floor, thus providing the

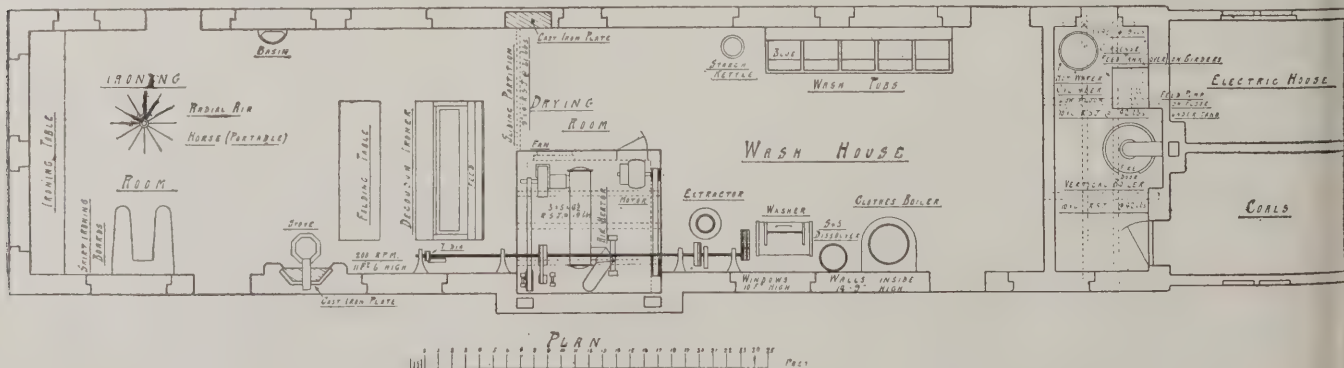


FIG. 2.—PLAN OF LAUNDRY FOR A PRIVATE HOUSE.



satisfactory belt drives. For the accommodation of the boiler and engine a lean-to is provided, with a division between, the boiler being on the outside position and the engine inside. It is bad practice to place the boiler and engine at any distance from each other, as such an arrangement would involve a long run of main steam pipe and would be most inconvenient for the engineer who looks after both. In the average laundry the only internal brickwork is the drying chamber, which in the case of a small chamber could be constructed of single brick, or in a larger building either for pipe or hot-blast heating, a 9-in. brick and reinforced concrete 7 ft. high under roof. It is always good practice to build the drying chamber close to the engine in order to secure the benefit from the engine exhaust steam for heating purposes. The exhaust air should be built into the brickwork and carried up either through the roof in the form of a chimney, or to the outside, where they are covered with grates.

The floor in the main wash-house must always be of concrete, and is arranged with a fall in order to carry surface water to the main drain. Those drains are generally of the open type where they cross the floor, and are covered with gratings. A common practice is to run the main drain alongside the wall at the back of the machines.

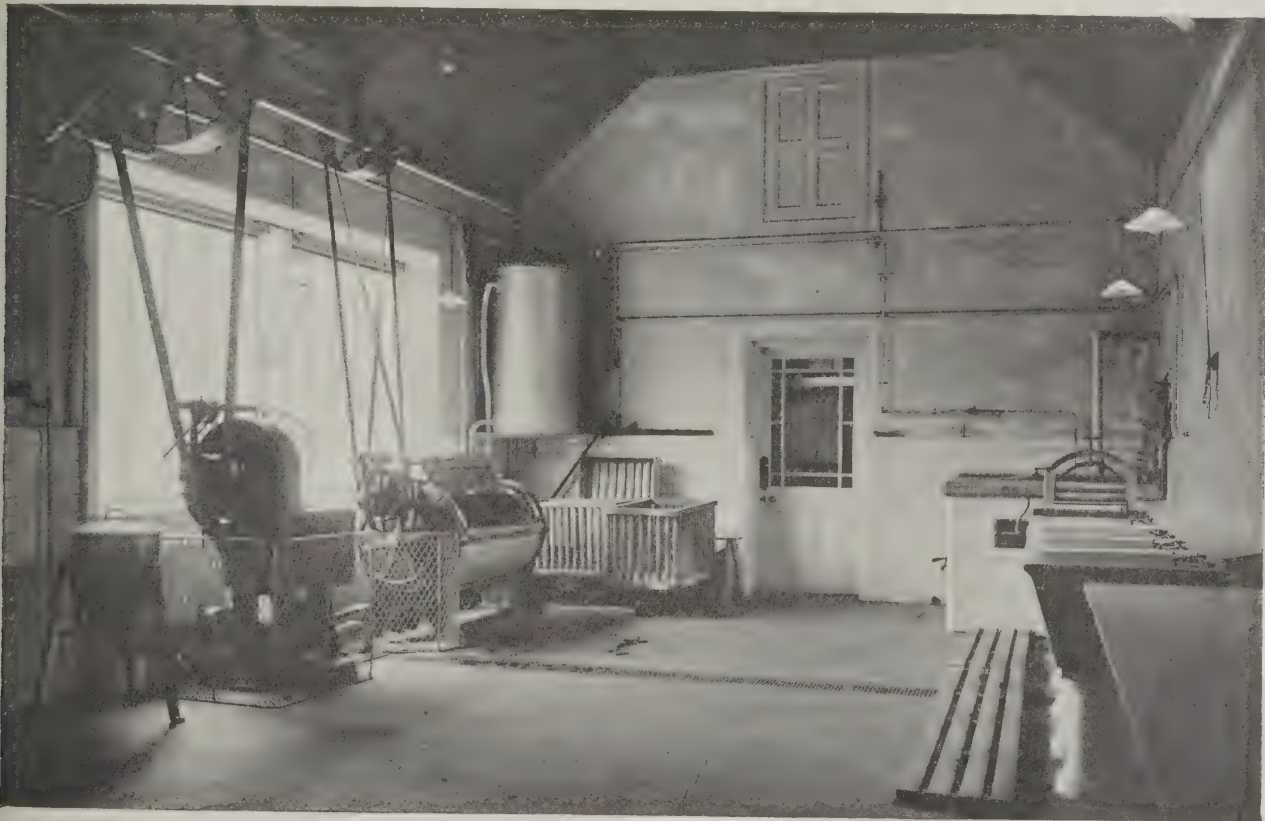
The question of ventilation is one of real importance in a laundry, and should be well studied when designing the building. In addition to louvres on the roof, it is well to make provision for mechanical ventilation with fans by forming bull's eyes in the gables, and all side windows should be arranged to swing open at the top.

With regard to the mechanical equipment of the laundry, this naturally depends on the number of bedrooms in the house, which are either constantly or intermittently occupied, but as even the smallest power laundry is capable of washing and laundering for the average household it will be found that the capacity of the plant in all private laundries is more

or less similar, differing only in the design of the units and their plan of arrangement.

The accompanying drawings, which are reproductions of modern laundries actually installed in private residences, will afford some insight into what may be regarded as strictly modern practice.

Fig. 1 represents a power laundry on the most modest lines possible consistent with reliable service. It is capable of washing, drying, and finishing for a household of, say, fifteen persons, including servants. Steam is provided by a vertical boiler within the power house with a connection to the drying chamber, and the prime mover is an electric motor driving one line shaft conveying power to the three principal machines, i.e., the metal washing machine, the hydro-extractor, and the ironing and finishing machine. It will be observed that there is ample space between the machines for easy working and laying out the linen, which makes all the difference in the world to the laundry maids who carry on the work. Three young



View in Washhouse.

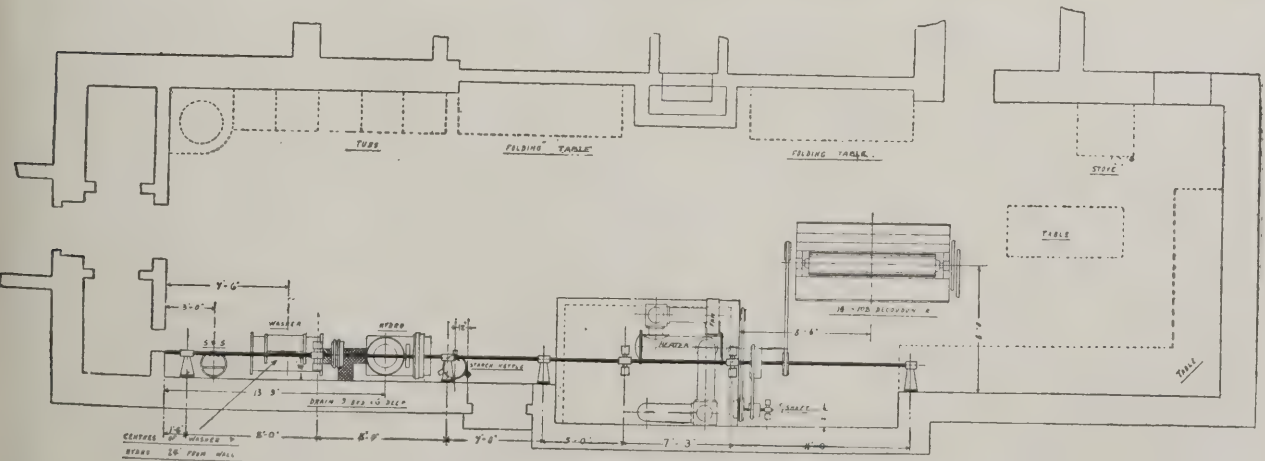


FIG. 3.—A MODERN MANSION HOUSE POWER LAUNDRY.



women are required to work a laundry of this size, and they need not be employed more than four days per week. The firing of the boiler and the running of the motor generally require the services of the estate handyman—at any rate, for a time until the women acquire a knowledge of this work.

In Fig. 2 the laundry shown is on more pretentious lines, and was installed some years ago in one of the largest mansion houses in the South of England. In this case the laundry building is of long and narrow formation, and is divided into four complete sections. The first is the power house enclosing the steam boiler, hot-water plant, electric house, and coal store; then follows the washing house, comprising a power-driven washing machine, soap boiler, clothes boiler, hydro extractor, starch kettle, rinsing and blueing tank, and fireclay hand wash tubs. It should be noted that all appliances in this section are of metal or enamelled fireclay, the object being to eliminate the use of wooden vessels for washing, as these are not considered so hygienic.

Following the progress of the laundry operation, a brief description may be given of the drying chamber. This brick-built chamber is equipped with metal tubes or rails fitted near the roof, and the temperature of 150 deg. is obtained from an air heater operating in conjunction with a belt-driven fan. The hot air is continually being changed within the chamber, so that the drying process is carried out very quickly, usually within half an hour. The final process is the calendaring of the linen, which is carried out in a power-driven machine with a metal roller padded with a woollen blanket revolving in a steam-heated bed. This machine finishes the linen in two passages through, and is perfectly safe even for an inexperienced girl to operate. The whole plant is driven from one overhead line of shafting, the power for which is provided by an 8 h.p. motor placed in the drying chamber.

Fig. 3 is on somewhat similar lines to Fig. 2 as far as the plant is concerned, but the design of the building and the lay-out of the plant are somewhat different. In this equipment, which was installed a few years ago by a Scottish nobleman at his country seat, the motive power is a steam engine, the exhaust from which is utilised to provide a constant supply of hot water in the laundry.

The illustrations shown are all of power-driven laundries, which, of course, are much more efficient than hand-power laundries, besides saving a vast amount of manual labour.

The initial cost of a power installation is perhaps three or four times that of hand power, but as the total expenditure for a modest power plant is a good deal less than most people imagine it is deserving of careful consideration.

[It being perfectly obvious that we are about to enter upon a period of intense practical activity, when every available means of efficiency and speed will be most eagerly sought after, architects should be much more keen than formerly to acquaint themselves with such practical details as those given in the foregoing article on laundry equipment. Although commonly, and quite wisely, the architect gives the specialist a free hand in such matters, it is essential that the architect should have a broad general knowledge which will enable him to exercise full control over the installation.]

## NEW BUILDING TRADES EMPLOYMENT EXCHANGE FOR LONDON.

Mr. G. H. Roberts, M.P., Minister of Labour, opened last week at Nos. 13-16, Tavistock Street, Covent Garden, the London Building Trades Employment Exchange. There has been for some time an exchange in Aldwych which has dealt with the supply of labour for the building trades, but the provision made in the new premises is of a much more ambitious character. It includes a number of features which may well cause the new exchange to be regarded as a model for other industries. For instance, a workman, after completing a job, will be able to leave his kit of tools in safe keeping at the exchange until he requires it again. Arrangements have also been completed for the supply of light refreshments at moderate rates, and a further departure is the establishment of a reading-room containing periodicals of special interest to men engaged in the building trades. A committee composed of an equal number of representatives of masters and men will watch over the interests of the institution.

Lord Burnham, as chairman of the Employment Exchange Committee, presided over a numerous gathering at the opening ceremony, the attendance including a large number of master builders and trade union officials from all parts of the metropolis. He said he regarded that inauguration as of great importance not only to the building trades, but also to the whole course of British industry. It marked a definite step forward in industrial reorganisation. It was without precedent or parallel, and it might be fruitful in consequences and in imitation. In a literal sense the building trades were not only constructional, but reconstructional, and no industry was of more vital importance to the country. The event that day was a consummation of that union between employers and employed in the building trades which commenced when the Minister of Labour invited both interests to nominate their panels of representatives on the London Committee. Before that time nobody could say that the building trades of the metropolitan area were in a satisfactory state. No trade was more casualised in its nature. Frequently there had been strife and friction between men and masters which, if they had been allowed to go on without any attempt to establish permanent machinery for their settlement, would undoubtedly have done widespread harm. The building industry, which was in a sense the premier trade of London, had been peculiarly affected by the necessities of war. As there was no prospect of any large amount of private enterprise being permitted, even had it been possible, no effort was made to check the outflow of men to the forces of the Crown at the commencement of the war. The building trades had been denuded of 50 per cent. of their man-power, and a committee of economists were of opinion that at the end of the war there would be a call for 30 per cent. above pre-war numbers in order to make up the strength which would be necessary to make good the arrears of work accruing from the commencement of the war, as well as to carry out the new programme of rehousing on national and municipal lines.

Mr. G. H. Roberts remarked that the necessity had long been recognised of calling in experts from the building trades to advise the Minister responsible for em-

ployment exchanges upon matters connected with the industry. To show valuable work had been done at the Aldwych Exchange, he pointed out that number of registrations effected there in 1913, the first full year, was 7,417, whereas in the present year the number up to October 10 was 18,575. The number of vacancies filled were 4,053 in 1913 and 17,920 this year.

It seemed as if when the system of employment exchanges was inaugurated those responsible for its creation were almost ashamed of it, and since then had appeared to be the Cinderella of Government Departments. In reality, however, it was an integral part of the form of organisation of our national industry. He wanted to see the employment exchange buildings become centres of enquiry and information in connection with everything affecting national labour, to be the common resort of the employers' organisations and of the trade unions. Since the war the building trade was going to be an industry of primary importance. A lot of leeway had to be made up. As a result, the public conscience had been aroused during the war, and housing, which people might have acquiesced in pre-war times was not going to be neglected in the future.

After Mr. Roberts had formally opened the exchange, Mr. Ernest J. Brown (a president of the London Master Builders Association) and Mr. S. Stennett (secretary of the Amalgamated Society of Carpenters and Joiners, and vice-president of the Employment Exchange Committee) delivered speeches cordially welcoming the inauguration of the institution.

## REPORT OF THE COLWYN COMMITTEE ON STATE CONTRACTS.

The first report of the Treasury Select Committee on Co-ordination of Departmental Action with regard to State Contracts, over which Lord Colwyn presided, has been issued as a White Paper [Cd. 9179]. The report deals with the administration of state contracts, and the following recommendations are made:

- (1) That where, as in the major cases, a lump sum contract is not practicable, the basis of cost plus a profit to the contractor be adopted in preference to a profit increasing with expenditure.
- (2) That as an additional stimulus to the contractor he shall be granted a discretion of Government a bonus on expenditure in construction.
- (3) That before the placing of a contract the work contemplated must be set out in approximate detail, with drawings and specifications, to secure that the estimated cost, on which the contractor's remuneration is to be based, is as accurate as possible.
- (4) Careful selection of contractors for the larger contracts and, most important of all, close supervision of the work by competent staff. Salaries paid by Government for efficient inspection should be saved over and over again.
- (5) Competition for labour among contractors or by Government Departments engaged on Government work by the issue of special inducements must be prevented.
- (6) The immediate establishment of a Standing Committee to ensure uniformity of procedure.

[See Editorial pages.]



## LEGAL.

### Factor's Claim : Day Work Accounts. *Jolly and Son, Ltd., v. Llewellyn.*

Mr. J. S. Official Referee's Court. Before Mr. J. S. J. S.

In this action, the evidence in which was at Bath, was concluded in London. Messrs. Jolly and Son, Ltd., who are actors, furnishers, and decorators, of Bath, sued Sir Leonard Llewellyn, of Bath, as Court, near Newport, for balance of account amounting to £7,312 for painting and decorating work done and materials at Malpas Court. The defence was that the charges were excessive and not covered by the contract.

Hudson, K.C., appeared for the defendant, and Mr. Disturnal, K.C., for the plaintiffs.

Hudson, in his closing speech for the defendant, said his case was substantial—that the charges of the plaintiffs were excessive and unreasonable and that to the extent they were covered by contract the claim was a remarkable one, as it amounted to a large extent of day-work accounts. Although the contract was for £6 17s. 6d., day-work accounts came considerably over £4,000. The substantial answer made by the plaintiffs to the defendant's suggestion of excessive charges was that in employing Messrs. Jolly to do the building work he must have known that they were not builders and must have to employ builders and charge extra profit. Mr. Hudson ridiculed the kind of argument, which he considered as an assumption that "fools must do their folly." In accordance with the terms of the lease the defendant had certain repairs at Malpas Court, in connection to which he desired to make certain changes and improvements in the premises. In response to his invitation he received three tenders for the work, and the plaintiffs were eventually employed although their tender was not the lowest, but their figures seemed to have underlain a certain amount of growth, as they did in such cases. As to alleged negligence that they were not builders, he said there was evidence that inquiries were made as to what facilities they had for carrying out building work, and from the fact that they undertook to do it it must be assumed that they were capable of carrying it out.

Mr. Disturnal, in his reply for the plaintiffs, said that Messrs. Jolly were specially chosen to do the work, although it was known that their charges were higher than those of others, because Sir Leonard liked their methods and relied in their artistic skill and merit. However, the work was done under certain conditions of exceptional difficulty owing to the shortage of labour, notwithstanding which it was satisfactorily completed to time.

The Official Referee, in giving judgment, said it appeared that Sir Leonard had arbitrarily chose Messrs. Jolly to carry out the work, knowing that their charges were considerably higher than those of the other firms who had tendered. The questions now in dispute were those relating to the extra work and the furnishings. It was a misfortune that the case had been dealt with by Sir Leonard in the manner in which he had dealt with it. He had appointed Mr. Page as his architect, a gentleman of position, who still remained a gentleman; and if the matter had been left to him an enormous amount of expense might have been saved. But

for some reason or other Sir Leonard declined to avail himself of Mr. Page's services in this matter, and handed over the question of the proper price to be paid to another professional gentleman, the result of which was that an enormous document was brought out giving details of some 750 items which had not been of much benefit to the parties, but had resulted in prolonging the litigation. Looking at the matter as a whole the (the Referee) came to the conclusion that the sum claimed was a fair and proper sum to be paid by Sir Leonard. There seemed to have been no unreasonable charge made with regard to the items for work done, and it did not appear to be the fact that any unreasonable profit had been charged. He thought the claim as adjusted was fair and reasonable, and therefore gave judgment for the plaintiff for £7,221 9s. 9d., with costs.

Judgment was entered for the plaintiff accordingly, with an order that the £5,000 paid into Court by the defendant should be paid out to the plaintiffs in part satisfaction.

## OLD WESTMINSTER STREETS.

A report which has just been presented to the London County Council by its Improvements Committee upon the houses in North Street and Smith Square, Westminster, has more than common interest for students of old London (says Mr. Wilfred Whitten in the "Observer"). This small Georgian neighbourhood has a curious history. A few years ago much of it was slumdom, and streets which are now select of the select were fast sinking into the same social morass, or had long been given over to shabby gentility and lodging-house dismalness. In 1890 the Council acquired twenty-five houses in North Street and Smith Square, with a view to an extensive improvement scheme in this region, including Millbank. The crowbar was uplifted to destroy them.

Then a strange thing happened. These houses began to interest a number of "the best people." Their nearness to the Houses of Parliament (all the streets are dominated by the Victoria Tower), to the Abbey, and to certain social and philanthropic rendezvous in Westminster was shrewdly observed. The mellow beauty of the neighbourhood pleaded for it, and it was discovered that a few architects and artists had already settled there. These forlorn streets became eligible in their dotage, and then began the immigration which to-day explains the comeliness and choice seclusion.

The Improvements Committee treated the Council to a little mild historical gossip. They stated that in North Street there is an unbroken row of these Early Georgian houses let as residences, and that these sixteen houses, together with nine in Smith Square, were built in the early part of the eighteenth century, and "form an almost unique group of property of this period of London." But to these houses must be added a large number in Cowley Street, Barton Street, and Great College Street. In these three streets, where the old houses have gone, new ones of rare architectural charm have arisen. By creation and re-creation a little district of singular grace has come into being, and it is good to learn now that North Street and South Square are safe until 1920.

The odd thing is that a good deal of the old slumdom remains; nowhere in London

can such strange neighbours be found as in a walk round Tufton Street, Dean Trench Street, and Gayfere Street. New houses, flats, and offices, built in ultra-modern solidity and taste, have been elbowing away old decrepit houses and decayed little town cottages. But the war has arrested the process, and the result is a comedy of juxtapositions.

## HOUSING AND TOWN PLANNING IN GREATER LONDON.

Following are points from a memorandum which has been prepared by a special sub-committee of the Garden Cities and Town Planning Association for the consideration of the local authorities to be represented at to-day's Greater London Housing Conference.

The object of this memorandum is to represent to the Conference the need of the application of bold and comprehensive principles of planning to the development of the Greater London region in connection with the provision of houses and other buildings after the war. The problem of housing, it is urged, is bound up with several other problems: in particular with those of the relief of traffic congestion, the construction of arterial roads, the preservation of existing open spaces, and the more orderly and efficient development of industrial areas. Without attempting to discuss these problems adequately or at length, it is desired to place before the Conference certain considerations which its members are invited to take into account in order that the general lines of a Greater London housing policy may be laid down.

The opportunity for a new departure arises out of the magnitude of the housing emergency that will have to be met after the war. It is generally accepted that vigorous State and municipal action will be necessary, the preparations for which must be made on a large scale without delay. No other conclusion is possible in face of the main facts: (1) That for more than four years the construction of dwellings for the normal increase of the population has been stopped; (2) that in the London district there remains from pre-war days a great deal of overcrowding and also much insanitary property to be dealt with; and (3) that private building enterprise will be for some time out of action after the war, owing to the dislocation of prices and rentals, the scarcity of material, and the probable opening of many more attractive avenues for investment.

### Number of Houses Required.

The Housing Committee of the London County Council have not considered themselves to be in a position to make any estimate of the number of houses required. The material is not available at present for an accurate estimate; but it is possible to take a view of the general situation and arrive at a rough measure of the dimensions of the task to be undertaken. During the war there has been a large influx of population engaged in Government Departments and munition factories. Part of this is of a temporary character, but it will probably be found after the war that the permanent population of Greater London and its immediate curtilage has increased more rapidly than it would otherwise have done. It may therefore be considered a conservative estimate to take the present actual shortage of dwellings in London to be the number necessary to



house four years' normal growth of the population. On the 1911 census basis this growth would be about 265,000 persons in the metropolitan police area alone. If we regard the period of reconstruction as extending over the next seven years from the end of 1918, and the same rate of growth to continue during that term, the number of persons to be housed between the end of the war (whenever that may be) and December, 1925, can be estimated at 726,000. At an average of five persons per dwelling, 145,200 additional houses will thus be required in Greater London by 1925. This estimate takes no account of overcrowding, rebuilding, or rehousing in connection with slum clearances. On the other hand, no deduction has been made for London men killed in the war, because their loss will not directly affect the pressure on housing to any considerable extent, though it will decelerate the future increase of population. It may be assumed, therefore, on a conservative basis, that during the period of reconstruction not fewer than 120,000 small dwellings will need to be built for the people of Greater London, in addition to 25,000 larger houses which may be built by private enterprise.

#### *A Systematic Inquiry Needed.*

It is not supposed that the above figures are a safe basis for definite action, but they give some idea of the size of the problem. The enormous number of houses that is required is sufficient by itself to make clear that the problem must be treated as a whole, for it is not merely a matter of satisfying a chance demand that springs up locally. The health, convenience, industrial efficiency, and civic welfare of every part of London is dependent upon the right handling of the question in every other part. For that reason it is essential that a much wider view should be taken than it is possible for any single local authority to take, and that the housing schemes for London should not be left to individual authorities to prepare on their own. A hundred housing schemes for the area, prepared without relation to one another, would make confusion worse confounded. It is therefore suggested to the Conference that as a first step a systematic inquiry as to the actual need for dwellings should be undertaken for the whole of Greater London, and that to avoid delay the inquiry should be undertaken forthwith by the London County Council in conjunction with the other local authorities within the area.

#### *A London Town-planning Commission.*

The calling of this Conference indicates at least a partial recognition of the facts to which attention has been drawn, and it is to be hoped that one result following upon it will be to formulate the demand for the creation of a regional authority. The Conference is asked to consider the desirability of the creation of a Permanent Greater London Town-planning Commission to exercise control with regard to housing, industrial and residential development, and all means of suburban communication, over the whole region which is in direct and continuous economic dependence upon London. Nothing short of this can provide the unity necessary to give practical effect to long debated proposals for London improvement, the settlement of which the housing emergency will not permit to be much longer delayed. The Commission that is proposed should take advantage of the results of the Traffic Commission and of work done in other

directions, and should undertake as its first business the preparation of a preliminary plan of the entire area in order to determine the general character of the development to take place. As the planning of London is a national interest, and co-ordination with other regions will be necessary, the Commission should probably contain a proportion of technical members nominated by the Government, as well as representatives of the London County Council, and of the other authorities grouped for the purpose. A definite area is not suggested at the moment for the operations of the new Authority, but it is quite clear that a much larger area than that now covered by the metropolitan police is necessary for effective planning in the manner required.

### NEWS ITEMS.

#### *Royal Institute of British Architects.*

The first meeting of the session will be held on Monday, November 4, at 5 p.m., when the President (Mr. Henry T. Hare) will deliver the opening address.

#### *Imperial War Museum.*

Sir Martin Conway, Director-General of the Imperial War Museum, has informed the Press that the statement that the Imperial War Museum is to be housed in the building of the Royal Institute of British Architects in Maddox Street is incorrect, and was not issued with the knowledge or authority of the Museum Committee.

#### *Reconstruction of Belgium.*

A well-informed Belgian in London has informed a "Daily Mail" representative that the Belgian Government will first send back to the released territory all available officials. Next passports will be given to engineers, builders and contractors, architects, manufacturers, bankers, and industrial leaders, so that they may go and see what is most urgently needed. Then they will come back to England and place orders for the necessary supplies.

#### *Institute of Arbitrators.*

The Institute of Arbitrators held their annual meeting on October 15 at 297, Winchester House, Old Broad Street, E.C., when the retiring president, Mr. Henry Adams, M.Inst.C.E., presented the report of the Council and the financial statement, which showed a satisfactory condition. Mr. H. D. Searles-Wood, F.R.I.B.A., was elected as the new president, and Mr. E. C. P. Monson, F.R.I.B.A., as vice-president.

#### *Jarrow Requires 1,200 New Houses.*

A Commissioner from the Local Government Board attended at Jarrow Town Hall and conferred with members of the Corporation on the housing requirements of the borough. In a statement submitted to the Local Government Board, it was pointed out that the population was 39,460, an increase of 2,500 since the outbreak of war; the houses numbered 7,061. Since 1911 ninety houses had been erected, and it is estimated that 1,200 houses are required, of which the Corporation recommend 600 to be provided at once.

#### *Exhibition of American Softwoods.*

An exhibit of American softwood timbers which will be available for use in reconstruction work after the war is now open for inspection by those interested at the galleries of the Royal Institute of

British Architects, No. 9, Conduit Street, Regent Street, W. This exhibit has been furnished by the Department of Commerce of the American Government, and is especially designed to explain the standard grades and sizes regularly produced by the American mills and which may be had in the largest quantities and upon the most favourable basis of cost. The exhibit is open from 10 a.m. until 5 p.m. on weekdays, and from 10 a.m. to 1 p.m. on Saturdays.

#### *Compulsory Housing Powers.*

Mr. Hayes Fisher has introduced a Bill to confer further powers on County Councils in relation to the provision of houses. It increases to eighty years the period for repayment of money borrowed for the purpose of providing dwellings for County Council employees. The Local Government Board is given power limited to a period of twelve months after the war, to authorise County Councils to provide houses for the working class where the Board are satisfied that such houses should be provided and that local authority have not taken adequate steps by the exercise of powers already conferred on them.

#### *Welsh Silica Brick Trade.*

At the fifth meeting of the Refractory Materials Section of the Ceramic Society, opened at the Technical College, Swansea, the Vice-President, Mr. W. J. Jones, Deputy Controller of Iron and Steel Production, Ministry of Munitions, presided. A great future was predicted for the Welsh silica brick industry. Dr. J. Alcock, curator of the Museum of Practical Geology, who read a paper on "Refractory Materials of South Wales," said that South Wales belonged the honour of being first in the field with silica bricks. It was almost 100 years since the first company was formed to make the now celebrated "Dinas" bricks, and how completely this commodity established itself was shown by the widespread use of the term "Dinas." Mr. W. J. Jones, O.B.E., who reviewed the position of the Welsh silica brick industry, said that the main defects of the Welsh silica brickworks were the comparatively small size of the works and it was necessary that a policy of combination should be pursued with the object of cutting down cost of production and establishment expenses.

#### *Greek Delegates Visit the Carron Works.*

The Greek Delegates who are touring business and industrial centres in this country, under the auspices of the Federation of British Industries, visited Carron Works on October 9. Arriving at Larbert Station at 12.34, the party were conveyed in motor-cars to the Dobbie Hall, where they were entertained to lunch by the Carron Company, under the chairmanship of the company's manager, Mr. Geo. P. Pate, who was supported by Bailie King, chairman of the National Light Castings Association, Mr. Robert McFarlan, C.A.E., Messrs. Kerr, Andersons, and MacLellan, the organiser for Scotland of the Federation of British Industries, and by Mr. G. R. Young, assistant organiser. After lunch the party went to the Carron Works, where they were conducted through the various departments of the Low and Mungall Foundry. Mr. Pate and a few of the company officials. Tea was served in the company canteen at Mungall Foundry, after which the party drove to Larbert Station to catch the 4.30 train for Glasgow, where they were to be entertained to dinner by the Provost and Corporation of that city.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

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## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in saving the efforts of the Government Paper Converter to eliminate waste. This they may do in one of two ways—*

*By placing a direct subscription for the Journal with the Publisher, or*

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The debate on the Housing Bill in the House of Commons on October 28 hostility towards the Government proposals took mainly the line that they are "uneconomical." It is a futile and fatuous contention. All national services or institutions are economical in the same sense or non-sense. Churches, hospitals, universities, schools, are economical, and are no doubt all the better for free education, according to this mode of reasoning—but to call it reasoning is an abuse of the term—"uneconomical"—it is paid for by the State. If indignant gentlemen who so vehemently attacked the Housing Bill in the House of Commons honestly search their hearts and minds for the reasons for all this "uneconomy," they will probably deduce the pregnant conclusion that the Bill—and more particularly the small section of it governed by the British—is not run on purely economic principles, nor on a religious observance of the so-called Ricardian theory of rent. It is Ricardo, by the way, who said—splenetically or more scientifically—that "the interest of the State is always opposed to the interest of every class in the community": as if landlords were a separate class or caste! No doubt Ricardo was so far from this assertion as to warrant its application to the present position with respect to housing. It would be hypocritical to deny that most of the opposition to State housing comes from those who, having direct interests in house property, fear, not without reason, that those interests are threatened by State interference. But the fact remains that things had come to such a pass that, as with education in 1870, State interference had become inevitable. Here we have a scandalous need for houses. It must be met. Private enterprise cannot or will not meet it, so the State must. Whether the State is adopting the wisest method of meeting it is another matter, and one that is yet to be threshed out.

\* \* \* \* \* The debates as that which took place on the second reading of the Bill add little to knowledge and little to wisdom. It is significant that among the logical opponents of the Bill were Mr. Jowett, Labour member for Bradford West, and Mr. Rowntree the eminent sociologist. Both members thought the Bill inadequate, Mr. Jowett stating that the Labour Party were profoundly dissatisfied with so vague and mean a Bill; while Mr. Rowntree, in favour of its rejection, urged that housing legislation should embody the two principles that (1) any additional cost, due to war conditions, in providing houses should be regarded as a war charge, and should be paid by the Exchequer; and (2) if local authorities are to discharge their responsibilities within a fixed

period, the houses should be built by the State and transferred to the local authorities. Mr. Jowett no doubt truly represented the general view of the workers, who, after all, are the persons chiefly concerned; while Mr. Rowntree speaks with the authority of an earnest and a thoroughly disinterested student of social problems, among which housing happens for the moment to stand first and foremost for solution. His first "principle" cannot be easily refuted, but if it is admitted it will commit the State to a far-reaching precedent. His second is irrefragable—local authorities failing of their duty should be brought to book. Local autonomy is a grand thing, but should only be respected as long as it is not abused, and the Bill provides no remedy against remissness that may be due to weak incompetence or to downright wilfulness. This defect in the Bill should be promptly amended. We fully agree with Mr. Leslie Scott that "persuasion, advice, and requests were useless in such a case, and there must be some method of compulsion." It is true that, in moving the second reading, Mr. Hayes Fisher said that where it appeared to the Local Government Board that the smaller bodies which were the housing authorities were not taking adequate means to provide houses for the population of the area, the Board should be able to call in the County Council and ask the larger body to undertake the duty, and to put the rate on the local authority which had failed to carry out the work: but the penalty should be more certain and severe.

\* \* \* \* \* In urging that the Government scheme would not succeed unless "some encouragement" was given to private enterprise, Sir J. Boyton should have offered some idea of how this can be done. Perhaps he thought it premature to go into details; or possibly the private enterprise scheme is not quite mature. It will have to be framed with great delicacy, otherwise it will be a stone of stumbling to its promoters and to the Government. It is highly desirable to secure the skilled assistance of those who, we are being constantly assured, built ninety-five per cent. of the working-class dwellings until, as they will have it, the "Lloyd George land taxes" and the rise in the cost of labour and material made their useful industry unprofitable. On the other hand, the awkward question arises whether, after all, it would be wise or just to subsidise middlemen whose sole object was private profit. Unfortunately, it is this very class of men who are strongest in denouncing State action in the matter, and who talk loudest about "benefiting one section of the community at the expense of another"; but perhaps they think it is now their turn to benefit by the unequal incidence. It remained for Mr. Dundas White, the member for the Tradeston division of Glasgow, to make the most dismally fatuous remark in a peculiarly dull debate. He is reported to have "contended that the scheme was finance run mad. Because," he added, "the emergency was great, that was no reason why they should throw overboard all economical principles." These desolating platitudes were characteristic of a sluggish and desultory debate that, moreover, dealt mainly with the most sordid aspects of the matter. There was never a word about health or amenity. The discussion was as "pettifogging and mean" as Mr. Jowett said the Bill was.



That the English are really an artistic people, though they are fond of deprecating their capacity for the fine arts, was an opinion to which Mr. H. A. L. Fisher committed himself when presiding last week at a meeting for the promotion of industrial art. His citation of English miniatures and mediæval needlework in support of his argument was too modest. Wood-carving, metal-work, pottery, and, in fact, nearly all the art-crafts, would have served his turn equally well. In most of the minor arts that they happen to have practised, the craftsmen of these islands have invariably reached a high, and in certain instances the highest, pitch of excellence. If they have not consistently maintained a comparable degree of achievement in the fine arts (and this is at least a moot point; for in landscape and in sculpture "great men have been among us"), that is possibly for the same root-reason that has given us pre-eminence in the handicrafts: we are too fond of "finish." Our very boots reveal this alluring vice. As there is nothing more deadly to art than over-elaboration, and as much time is wasted upon it, our craftsmen should be encouraged to adopt a freer and franker method, and should be persuaded that "finish" is seldom worth the labour bestowed upon—often, indeed, pains the beholder and ruins the work. If Mr. Fisher had claimed that in manual dexterity our craftsmen have no superiors, we should not merely agree with him, but should demur that he had understated the case. But they want guidance, and this it is proposed to give them by establishing a British Institute of Industrial Art incorporated under the joint care of the Board of Education, the Board of Trade, and the Society of Arts. Since artistic craftsmanship is so closely associated with architecture and building, we have every reason to wish the new movement all success. Mr. Gordon Selfridge made a useful restatement rather than a revelation when he said at this meeting that the public, instead of seeking beauty, made a fetish of durability—"even asked of a bouquet if it would wear well." It is becoming more clearly recognised that durability, whether in a bouquet or a building, is not seldom worshipped ignorantly and blindly.

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It is gratifying to note that the building industry is doing so much to further technical education. What the National Federation, the Master Decorators, and others, are doing to maintain and increase the supply of skilled craftsmen we are repeatedly recording. Probably no other industry has—certainly not in London—any schools at all comparable to the L.C.C. School of Building at Brixton, or the Trades Training School of the Carpenters' Company at Great Titchfield Street. It was at the Carpenters' Hall that there was held last week a conference of delegates from the City Livery Companies connected with the building industry, with the object of pooling resources for the furtherance of building-trades education. A resolution to this effect was proposed from the chair by Lord Burnham and carried unanimously. It would seem, therefore, that the London City Guilds are about to enter upon a serious attempt to justify their titles, if not to revive their ancient functions. What they have already done for British craftsmanship, through the City and Guilds Institute, has never been sufficiently recognised; but that is no reason why the good work should not be extended, and adapted to meet the new needs.

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In dealing last week with certain points in the "First Report" of the Treasury Standing Committee on Co-ordination of Departmental Action in Regard to Contracts (Colwyn Committee), space was wanting for comment on paragraph 22, which expresses the opinion of the Committee "that experienced legal draughtsmen from the various Departments should at

once meet and draw up a standard form of contracts and standard clauses incorporating these recommendations for general use as far as possible." On surface this proposal may appear to be far reasonable; but it will be found that it does not come very well out of the test of probing. Why, instance, should "experienced legal draughtsmen" draw up the clauses? What can a lawyer know about building? Of course, the law of contracts, building or other, has been made so utterly confusing to nobody but a highly trained legal expert can trace his way through the intricate maze of it. Unfortunately, then, it is necessary that in framing a form of contract the lawyer should be called in to embellish it with a few legal subtleties and obscurities, with which the laity would fail to recognise it as authoritative or binding; but surely a building contract should be fabricated in the first instance by experts in building rather than by jugglers in legal jargon, whose functions are mainly decorative. Yet the Colwyn Committee advise that a standard form of contract should be drawn up by legal draughtsmen! It does seem to have occurred to the Committee that a building contract is anything more than a legal document having for its main object to bind hands and feet the luckless builder.

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Further, the Committee think it desirable "that designs and specifications should be co-ordinated and standardised, as far as possible, between the various Departments where construction work of a similar nature is being undertaken." No doubt building generally would approve of this in principle, but it is certainly confusing to have the same requirements expressed differently by different Departments. On the other hand, it would be still more embarrassing to have different requirements expressed in identical terms, and to stereotype a convention to which everybody and everything must conform in every jot and tittle of the particulars. A craze for uniformity like most other crazes, nearly always mischievous in its effects, and it is a form of hallucination to which bureaucrats are peculiarly liable. This Committee have got it rather badly; for Clause 23 of the Report reads: "A Standing Committee should be formed, consisting of the Heads of the Construction Branches of the various Government Departments, with an independent chairman, and such Committee should meet regularly to discuss the many questions which must arise from day to day, in order to agree upon uniform lines of procedure." When they do so, their unanimity will no doubt be fearful and wonderful. More often—supposing them to be normally true to type—they will disagree most profoundly on every single point raised, and the job will often be brought to a standstill pending the result of the adjourned debate on some paltry issue that could have been settled offhand by an office-boy but for the existence of a Standing Committee to consider and complicate. Surely the Colwyn Committee must be very ignorant of the psychology of Heads of Departments, if they imagine that they can ever, in any circumstances, agree on any subject whatsoever. Their disagreement as to uniform lines of procedure would command a certain measure of respect: but there is never an architect, and never a builder, and never any other practician or tactician worth anything who did not prefer his own way of doing things, and who did not do them best that way. Moreover, standardised specification is, in effect, to stultify progress with respect to either. To insist on compliance with the inelastic and obsolete terms of a specification is to set dangerous mantraps for the tractor, who may be brought within the meshes of the law for failure to do or to procure what is imperatively though prescribed in the specification.



## HERE AND THERE.

GOSSIPING last week about the centenary of the Old Vic, I chanced to mention Mr. Walter H. Godfrey as one who probably had handled Henslowe's Diary. It was mere surmise, and what was to make it was, no doubt, a hazy recollection of Godfrey's reference to the original contract for building of the Fortune Theatre. This document, the Diary, is preserved at Dulwich College, but Godfrey's quotations from it, in his account of the Fortune Theatre, are made from the transcription by Mr. O. Halliwell Phillipps. It may be remembered from the data thus obtained Mr. Godfrey made a very interesting attempt to show us what the Fortune Theatre was like; the document, as he says, comprising more than a mere contract, and possessing something of the character of a specification.

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proof of this assertion—or, rather, in justification of his essay in reconstruction—he quotes in full the passages that suggest the form and construction of the building. Philip Henslowe and Edward Allen of the one part bargained with Peter Streete of the other for the erection of a "plaie-house" near Golden Square, in the parish of St. Giles Without, Cripplegate. As specified that the house was to be set square, to contain fourscore "foote" of lawfull assize, 7 way square without, and fifty-five foot of like square every way within, with a good sure and strong foundation of piles, brick, lime, and sand, both without and within, to be wrought one foot of assize at the least above the ground. The frame was to be 3 stories in height—first story 12 ft., second 11 ft., third 9 ft.; "All which stories shall containe twelve foot and a half of lawfull assize in breadth throughout, besides a juttey forwardes in eyther of the saide upper stories of tenne ynches of lawfull assize." The house was to be "four convenient divisions for gentlemen's rooms, and other sufficient and convenient divisions for twoepennie rooms; with necessarie seates placed and sett as well in those roomes as in the playhouseoute all the rest of the galleries of the saide house."

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airs, "conveyances, and divisions," without and within, were to be like those in "the late erected plaie-house on the Banck, . . . called the Globe." "The stadge" was to have a shadow or cover, and was to be fortie and three foote of lawfull assize, and the breadth to extend to the middle of the yard of the house, and was to be paled in below with good strong and sufficient new oaken boards. It was to be in every way contrived and fashioned like unto the house of the said playhouse called the Globe. In fact, the new house was to be exactly like the Globe in all its contrivitions, conveyances, thinge and thinges"; "the playhouse and Alleyne carrying the sincerest form of architecture to the extreme limit; except that the new playhouse was to be of larger size and to have stouter pillars." As Peter Streete was to provide all the materials, I suppose that any chance of Henslowe's having got his timber cheap from his uncle in Sussex is completely negatived. But the distance was no protective; for in those days Sussex was rather less accessible to the Londoner than, under pre-war conditions, was Sacramento.

\* \* \* \* \*

In "reconstructing" the Fortune, Mr. Godfrey had, mainly, the main dimensions to work upon, but the document gave him very little other assistance. He had to draw inferences from other sources. He consulted various documents bearing on disputes between proprietors and players: so out of evil cometh good.

But for the preservation of legal documents, or other records of litigation, there would be wider gaps in history. Mr. Godfrey's extremely interesting reconstruction of the Fortune Theatre appears in the volume entitled "Some Famous Buildings and Their Story," by Alfred W. Clapham, F.S.A., and Walter H. Godfrey, and is illustrated with a conjectural view of the interior, John de Witt's drawing of the Swan Theatre, a section through the stage and another section facing the stage, and two conjectural plans. These reconstructions are very pretty and very probable, and it will be remembered that an American university is the richer for model theatres made under Mr. Godfrey's supervision. Our American cousins are much fonder of models than we are, and make them much more frequently than we do as a preliminary to building. In some instances, it will be remembered, they even go the length of making actual-size frontages, and putting them up in situ. They are thus enabled to get a much clearer, though by no means a perfect, idea of how the building will look; and this relieves the architect of a considerable degree of anxiety. Without this scenic aid he knows pretty well how the building will look; but the client does not, because he cannot read plans, and is apt to think that elevations lose a lot on materialising. Not but what the most perfect model is a little misleading. Scale and texture make such a tremendous difference. Yet there can be no doubt that a well-executed model is very fruitful in the suggestion of improvements in the design; and is of economic value in saving the expense of modifications conceived while the work is in progress.

\* \* \* \* \*

Model-making is a craft that ought to be greatly extended. Every infant-school in London has its museum cabinet in which are proudly shown models that the children have been delighted to make. These include every object that the child has an opportunity of observing, but the buildings are few, perhaps because of the difficulty of housing a house in a small cabinet, or perhaps because a house is too common, or too dull, to attract a child's attention. On reflection, I will beg leave to withdraw that last injurious surmise; for I remember to have read somewhere that a very young child sees very small sections of its environment, and sees nothing higher than the level of its own eyes, unless its attention is specially directed skyward, when it gazes upward very reluctantly and only momentarily. It may be assumed, therefore, that even a small house, or even a room, is too big to be seen all at once by a very young child. This restricted range of vision is not altogether peculiar to children. I am inclined to suspect that it very often survives to the adult age and beyond; and it is to our undoing that so many of us see sectionally.

\* \* \* \* \*

Nevertheless, a healthy child has a strong building instinct, and will exercise it tirelessly in the intervals between spasms of destructiveness. Both these natural proclivities could be enlisted in the services of education. Correct models of various types of buildings should be—nay, I think they certainly will be—supplied to every school, and, in taking them to pieces and putting them together again, the pupils would learn much about structural mechanics and a little about art. They would get also some sense of scale and proportion, which is a most plentiful lack—even among architects, let me whisper. A series illustrating the development of building construction would be useful in technical schools, where working models of all sorts should be much more prevalent.

DIOGENES.



# THE EMPIRE WAR MEMORIAL SCHEME, WESTMINSTER.\*

BY R. C. REGINALD NEVILL, B.A., LL.B.

**S**TATED in brief, Major Pawley's War Memorial Scheme takes the form of a new city which is to be built in Westminster, and it is suggested that in this city there should be established a seat of learning amid surroundings and associations which will both recall the great past of our country, and commemorate and keep alive the heroic incidents and episodes of this war. Isolated monuments and buildings have in the past sufficed as memorials of our former wars; but the sacrifices, the issues involved, and the portentous significance of the present war have been such as amply to justify the suggestion of a memorial city.

Apart from the material aspects of this scheme, I feel sure that the bold and fearless idealism with which it is inspired must in these days make a powerful appeal. There is no spot on the face of the earth more rich in historical associations than Westminster. It is in Westminster that English liberty has grown through the centuries from infancy to maturity.

\* Extracts from a lantern lecture given at Caxton Hall, Westminster, on Thursday, October 31.

And now after this terrible war, in which all various branches of the English-speaking people have fought together as brothers-in-arms in defence of the great traditions of their race, what site in the whole world can be more appropriate for the purpose of erecting an Imperial war memorial than Westminster?

Major Pawley's general idea, then, is to create Westminster, in the immediate neighbourhood of the historic Abbey and the Houses of Parliament, a centre and home for Science, Art, and Learning, and to erect buildings dedicated to this great object upon sites which are not only from every point of view the most appropriate that can be found, but are also readily available.

To carry out this idea, wide avenues and streets are to be laid out, and great piazzas or circuses opened up. In these avenues and open spaces memorial groupings of monuments may be erected dedicated to the achievements of our fighting forces, and to those of our Dominions beyond the seas. The rebuilding of Lambeth Bridge is also contemplated, designed



GENERAL PLAN OF PROPOSED EMPIRE WAR MEMORIAL SCHEME, WESTMINSTER.

MAJOR CHAS. J. C. PAWLEY, V.D., ARCHITECT.



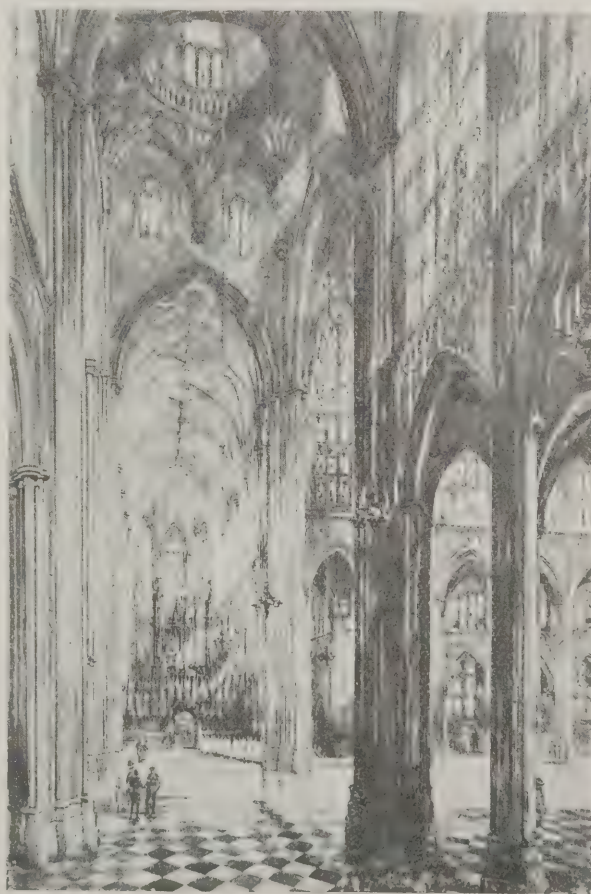
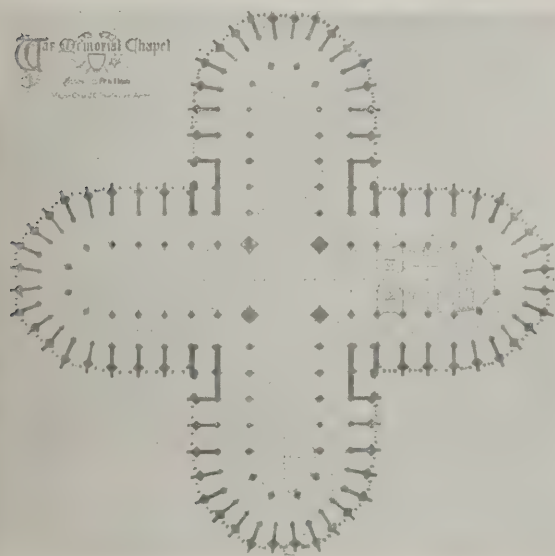
fine memorial bridge and as an approach to this new city from the Surrey side of the river. One of the great features of this scheme is that it offers a unique opportunity for erecting new buildings so urgently needed for the University of London.

A modern Ordnance map will show the area clearly. It will be noticed that by taking Victoria Street, Vauxhall Bridge Road and the river embankment, we have roughly an equilateral triangle. At the angle which points to the west we have Westminster Cathedral, at the northern angle Westminster Abbey and at the southern angle the Tate Gallery. Now a line drawn from a point at which Lambeth Bridge joins the Embankment on the Westminster side to a point at the southern end of Westminster Cathedral practically bisects this triangle. It is to this line I would direct attention. It forms, as it were, the axis of the whole scheme. It may even be continued across Lambeth Bridge, and then, taking a slightly northerly bend *via* Lambeth Road, it ultimately reaches the London Bridge Railway termini, thus joining east and west the two great railway termini of Victoria and London Bridge. It is Major Pawley's opinion that the execution of his scheme will so increase the land values of the area in question as almost to compensate for the widening of the streets and carrying out the improvement suggested. This,

of course, does not relate to the erection of the buildings, which will be undertaken independently.

Naturally the replanning of this area will displace a part of the population of the neighbourhood; but by an extension of the admirable housing scheme of the County Council which has been started in the neighbourhood of the Tate Gallery and for which extension there is ample space, the population disturbed by the replanning could be accommodated within a stone's throw of their present dwellings.

Now the position with regard to this particular area is as follows: The County Council have in view, I understand, a further improvement of the Embankment. Lambeth Bridge is practically unsafe and useless in its present condition and has to be rebuilt.



PLAN AND INTERIOR OF SUGGESTED WAR MEMORIAL CHAPEL, WESTMINSTER ABBEY.

MAJOR CHAS. J. C. PAWLEY, V.D., ARCHITECT.





BIRD'S-EYE VIEW OF PROPOSED  
MAJOR CHANGES





MEMORIAL SCHEME, WESTMINSTER.

D., ARCHITECT.



The County Council have further, I believe, a scheme under contemplation for widening the approaches to the railway termini at Victoria Station, one of the most urgent and necessary improvements to be carried out after the termination of the war. The question therefore is, What is to be done with the intervening area? That is, the area within the triangle which I have indicated. Something will be done and that shortly, because many of the leases are falling in within the next few years. The decision has, therefore, to be made within a very short time as to whether a really comprehensive and dignified scheme of replanning is to be adopted such as that which I propose to show, or whether this area is to be left for uncontrolled development to private speculators. If, then, a scheme of replanning such as is now suggested be not adopted very shortly the chance may be lost for ever, and the opportunity may never recur of reconstructing this area in a manner worthy of and consistent with its proximity to the heart of the Empire. If the scheme as now put forward is not considered appropriate, then the anxious and compelling inquiry, "What is to be done with this area?" still remains unanswered. It is none the less a question which must receive a satisfactory solution if Westminster is to preserve its dignity and self-respect as the City of the Empire.

The ground plan gives the outline of the principal sites for the proposed buildings, and shows also the main arteries of thoroughfare with the open spaces at intervals. The principal avenue, which is to be 120 ft. wide, follows the line already indicated running from Lambeth Bridge to the south end of Westminster Cathedral. For the purpose of explaining the scheme it is convenient to give this avenue a name, for which the "Empire Avenue" will serve till a better be found. It is suggested that the "Empire Avenue" should be continued across the river by the Memorial Bridge to take the place of Lambeth Bridge, this bridge being, like the avenue, a hundred and twenty feet wide and flanked by groups of statuary. The open space where the new bridge joins the Embankment offers a site for a memorial, and in like manner the circuses in the "Empire Avenue" provide sites for similar memorials which can be dedicated to our fighting services and to the troops of our Dominions. There are also other circuses in the tributary streets to the main avenue, and the scheme even contemplates the replanning of the Vauxhall Bridge Road area, so that further sites for monuments are offered here. It should be borne in mind that even these tributary or collateral avenues are designed as noble thoroughfares only a trifle less ambitious in design than the "Empire Avenue" itself, so that the new city would be laid out on a scale to which no other part of the metropolis can bear any comparison, and which may well rival or even surpass any other city in the world.

Allusion has been made to the site for the University buildings of London. The site suggested is shown on the plan on the south side of the "Empire Avenue" with a frontage to the River Thames. The river frontage of the site is 960 ft., and the frontage to the "Empire Avenue" 1,390 ft., giving a total area of approximately 15 acres.

It is very difficult to conceive any site in London where the University buildings could be placed to greater advantage. Apart from the dignity which any fine building must gain by possessing a river frontage, and by being situated at the junction of the Memorial Bridge with the Embankment, there are the associations which the University will acquire by reason of the close proximity of the Houses of Parliament and Westminster Abbey. In addition, this site possesses the altogether unique advantage in so far as it is here possible to add to these associations by creating the surroundings of the University and by erecting in the immediate neighbourhood other

buildings dedicated to the services of the sciences and the arts. Of all buildings a University makes the most powerful appeal for appropriate and harmonious surroundings and associations. On this site the University would be in intimate relation to the great associations and traditions of the past, and in the midst of a city whose construction is to represent and embody the combined and supreme efforts of the architects, sculptors, and other artists and artificers of the nation.

Nothing could be more appropriate than that this city of learning and enlightenment which the scheme contemplates should contain provision for making good some shortcomings in our national life. Hence it is proposed to provide a theatre dedicated to Shakespeare, and specially designed for the performance of his plays and other classics of British drama, a noble hall for the presentation of the great masterpieces of music, and a great gallery worthy of contemporary British art. Major Pawley has already designed or has in hand the elevations and plans for all these buildings.

This, it is suggested, should be one feature of the Memorial City. It is an adjunct, as it were, to the University. It is essential to make the scheme of intellectual and artistic education complete. With the lectures, libraries, and laboratories of the University, this provision for drama, music, and the plastic arts will make Westminster the fountain head of a liberal education.

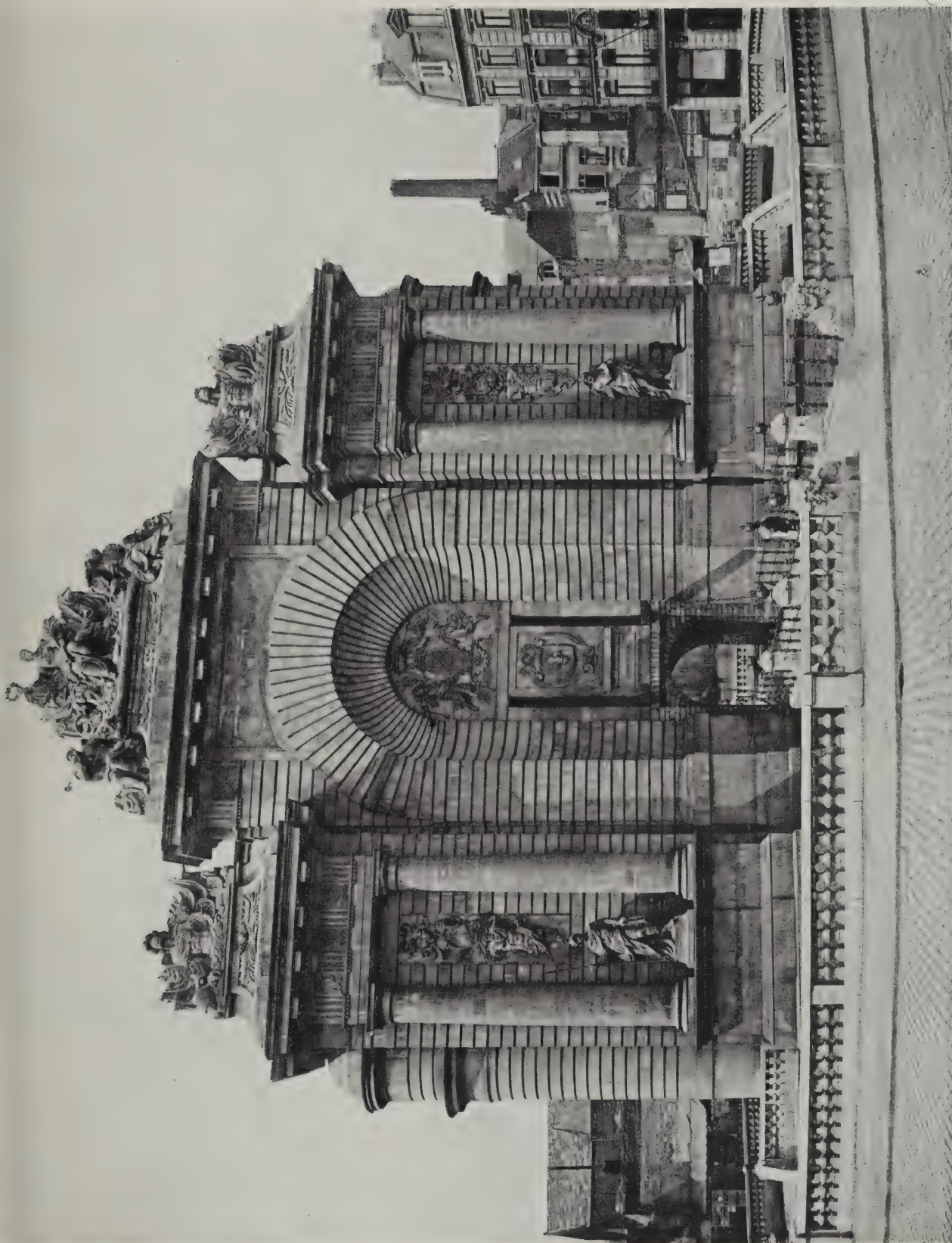
There is yet another feature of the scheme which is of equal importance to the aims which have already been formulated. There are a few of our great engineering and scientific institutions with homes of their own. Such important bodies as the Iron and Steel Institute, the Institute of Mining and Metallurgy, the Institute of Metals, the Institute of Mining Engineers, the Society of Chemical Industry, the various gas institutions and associations, and a number of smaller societies are without a suitable home where facilities for holding general and committee meetings are available, and provision is made for library or even laboratory accommodation, and for similar conveniences essential for the pursuit of scientific knowledge. It is also most desirable that these institutions should be so placed that they are in a position to maintain an intimate relation with the University. They have a very real interest in encouraging and keeping in touch with post-graduate scientific research and in watching over the training of the expert scientific knowledge which guide the future destinies of the great industries they represent.

The suggestion is that the sites which will be available under this scheme will provide these institutions whose welfare is essential to the national industry and commerce with the opportunity of acquiring the accommodation which is so urgently needed. Considering the national importance of the functions discharged by these institutions it may well be urged that after the University their claims on these sites should receive preferential consideration.

Bearing in mind the description which I have given of the scheme, I wish particularly to call attention to the perspective or birdseye view of the new city (see centre plate). It is the key to whole scheme. First notice the "Empire Avenue" with open spaces for monuments. Then on the south side of the "Empire Avenue" will be seen the site for the University buildings giving these buildings the perspective. On the opposite of the avenue are the sites which will be in every way suitable to the scientific institutions referred to. By the avenue opening out of the first circus in a northerly direction Victoria Street is reached by Strutton Ground. Major Pawley has designed the buildings for the Victoria Street entrance to Strutton Ground, which will also be the Victoria Street approach to the new city.

Continuing along the "Empire Avenue," we come



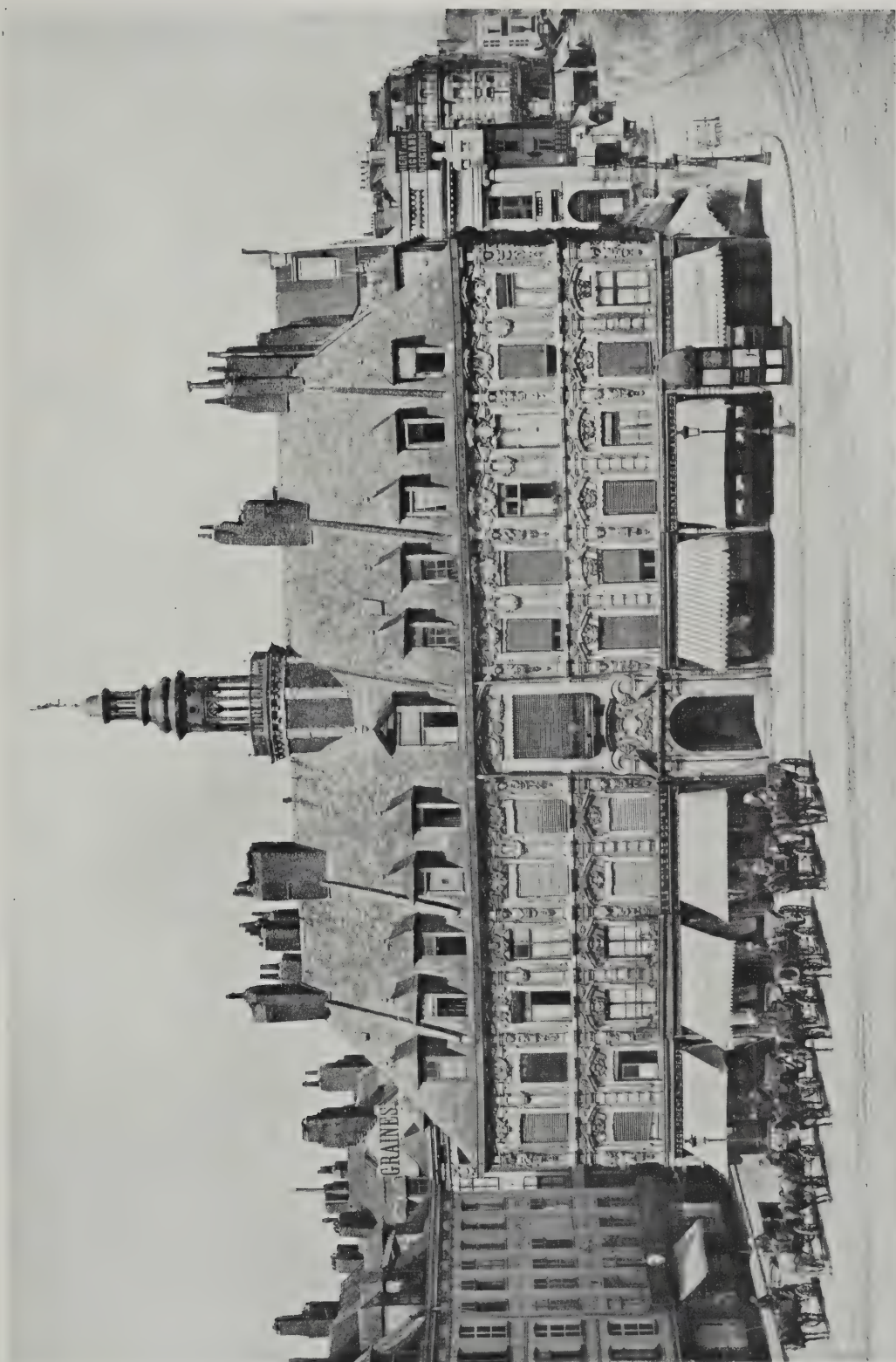


ARCHITECTURAL MONUMENTS IN THE WAR ZONE. V.—THE PORTE DE PARIS, LILLE.

SIMON VOLLANT, ARCHITECT.







ARCHITECTURAL MONUMENTS IN THE WAR ZONE. VI - THE BOURSE, LILLE.







PLAN OF LILLE. circa 1572. BY BRAUN AND HOGENBERG.





Arch.

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Arch of Constantine.

MONUMENTS, XLIV.—TWO FAMOUS ROMAN ARCHES.





Vincent Square, which is of course to be preserved an open space. On the far side of Vincent Square a great picture gallery, which will have a frontage with Vincent Square and Vauxhall Bridge Road, and would be the first building to open up the development of the latter thoroughfare. Major Pawley contemplates the sites for the Shakespeare Theatre and the Memorial Concert Hall as in the area around Strutton Ground. There is also in close proximity to Westminster Abbey the Gothic War Shrine, with its cloisters, which Major Pawley has designed. This, then, is the conception of our new city. Major Pawley has suggested Portland stone as the material in which the city is to be built, and that everything both in design, execution, and material is to be of the very best available.

It will be remembered that on the ground plan of the scheme the University buildings appear on the north side of the "Empire Avenue." Opposite to the University buildings on the north side would be the sites for the buildings designed for the scientific institutions which have been referred to.

Major Pawley is indebted to Mr. Gilbert Bayes for the sketch design for the monument to stand in the focus at the western end of the University building the "Empire Avenue" frontage. The idea of the monument is to commemorate the retreat from Mons, which will always remain one of the great heroic episodes of the war. It is the epic tragedy of this retreat which Mr. Bayes has sought to portray.

In order to make Westminster one great and harmonious whole Major Pawley has thought it desirable to present designs for filling in a site where the present buildings are not in harmony with the dignity of the city. A building which he has designed for the purposes of the proposed War Museum or for Government Offices, he proposes to place between the United Service Institute by Inigo Jones and Mr. Norman Shaw's Scotland Yard Buildings. Major Pawley's suggestion is that the present United Service Institute should itself form a wing of the building, and that Inigo Jones's design should be followed out through the rest of the building. These designs are, however, auxiliary to the main scheme which centres round the "Empire Avenue," and they are not necessarily an integral part.

More closely associated with the main scheme is Major Pawley's design for a War Shrine within the immediate neighbourhood of the Abbey. His idea has been to erect a Gothic building where light is to be the dominant note. Bearing this in mind, attention is directed to the three tiers of windows. In these windows almost infinite scope is given for stained-glass designs. Each window might even be a separate memorial. Major Pawley is indebted to Mr. Halliday for designs for three windows. The interior of the Shrine contains seventy-eight recesses, each of which is designed as a Memorial Chapel capable of dedication to those who have fallen in the war. Inside the Shrine provision is made for cloisters to be devoted to memorials. The Shrine itself is designed to be a temple of the heroes of this war, and dedicated to their memory.

It may be frankly acknowledged that the scheme which has been submitted is highly ambitious. In view of the greatness of the occasion it would be needless if it were not. At the same time, it is perfectly practical where the will to carry it out is present. It admittedly involves a departure from all war habits or thought, and no improvement of the hitherto evolved can ever serve as a precedent. It is not put forward in any way as a commercial venture, but as a war memorial, where all material benefits which may possibly accrue should appropriately belong to the nation. It must be regarded as combining a great work with a great ideal. It is designed to add to the Empire's greatness and dignity. It is to be a national act whereby the nation is to

prove that it is worthy of those who have died for it. Such, I understand, are the ideals which have inspired Major Pawley's conception of a war Memorial. Criticism of a scheme of such vast dimensions there must be, and I understand that criticism will be in no way unwelcome to Major Pawley; but of all forms of criticism, that he feels will be most useful which will point out in what respect the scheme is insufficient or where it falls short in comprehensiveness. In the erection of a War Memorial for the fallen in this war the most we can do is the least we ought to do.

It is also possible, though I hope not probable, that the scheme may be criticised as being too visionary or too idealistic. To those who feel inclined to criticise from this point of view, if there be such, I would say at once, that if this designed city of light and learning, of intellectual and spiritual achievement, did not constitute a noble ideal, or did not present a beautiful vision, it would not be becoming to put it forward as a War Memorial. It could not be that living monument of national aspiration which alone can be worthy of the men and the deeds we desire to commemorate. At the same time, for practical fulfilment, this scheme rests and must rest entirely upon the will, the effort, and the aspiration of the nation as a whole.

## THE PLATES.

### *The Bourse and the Porte de Paris, Lille.*

THE city of Lille, which has just been wrested intact from German hands, was formerly the capital of Flanders, but it was taken by Louis XIV. in 1667. It has few historic monuments, except for its famous Bourse and certain relics of its seventeenth century fortifications. The Bourse, which stands on the north-east side of the Grand Place, is one of the most remarkable municipal buildings of its period. It was begun in 1651 or 1652 from the plans of Julien Destre, who was the city architect at that time. Like many town-halls and churches of Northern France, it is essentially Flemish in spirit. The exuberance of the decoration, the absence of academic restraint, the steep-pitched roof with its dormer windows—all these indicate something quite alien to contemporary French architecture.

The Porte de Paris is in very striking contrast with the Bourse. When Louis XIV. took the city in 1667 he wished to signalise his triumph, and he did so by erecting this archway, which was built between 1685 and 1695, from designs by a local architect, Simon Volland. The old plan of Lille reproduced in this issue has been kindly lent by Mr. Brook Kitchin, F.R.I.B.A.

### *The Arches of Titus and Constantinë, Rome.*

The triumphal arches of Rome are the final expression of Roman love for magnificence. The finest, perhaps, is the arch of Titus, which commemorates the victories of that Emperor in Jerusalem, A.D. 70. There are two fine reliefs on the inside of the arch, one representing the Emperor in a triumphal chariot in which he advances to the Temple of Jupiter Capitolinus, the other showing a procession of soldiers bearing away the seven-branched candlestick and the table of the shew-bread. In the Middle Ages the arch was built into a fortress, when battlements and walls were added to it, but upon the removal of these in 1822 it was reconstructed under the direction of Valadier. The Arch of Constantine remains in a wonderful state of preservation. It was dedicated by the Senate and people of Rome to the victory over Maxentius A.D. 312, when Constantine declared himself for Christianity. The reliefs upon this arch were pilfered from the Arch of Trajan.





## WAR BUILDINGS SECTION

### ORE STOCK GANTRY, NEWPORT IRON WORKS, MIDDLESBROUGH.

WITHOUT iron ore the war could not be carried on. This is not such a sweeping assertion as it first appears when one considers the very large part taken by iron and steel in the manufacture of munitions of war. It is evident, then, that the plants dealing with the reduction of iron ore are of the greatest importance to the country.

To cope with the greatly increased

demand the existing works have been considerably extended, and in some cases new plants entirely have been erected.

As in other fields, reinforced concrete, owing to its well-known advantages and adaptability, has been resorted to, almost without exception, in the erection of the various structures required. Below is described an ore stock gantry recently erected at Middlesbrough for Messrs. Sir

B. Samuelson and Co., Ltd. As the illustrations show, it consists of an elevated railway track (see Fig. 1) 422 ft. long, with an average height of 36 ft. above general works level.

The rail beams are tee-shaped, deep and 14 in. wide, and are supported on 16-in. square columns at 25 ft. centres. At each side of the track is a form consisting of a 4-in. slab supported



FIG. 1.—ORE STOCK GANTRY, MIDDLESBROUGH.



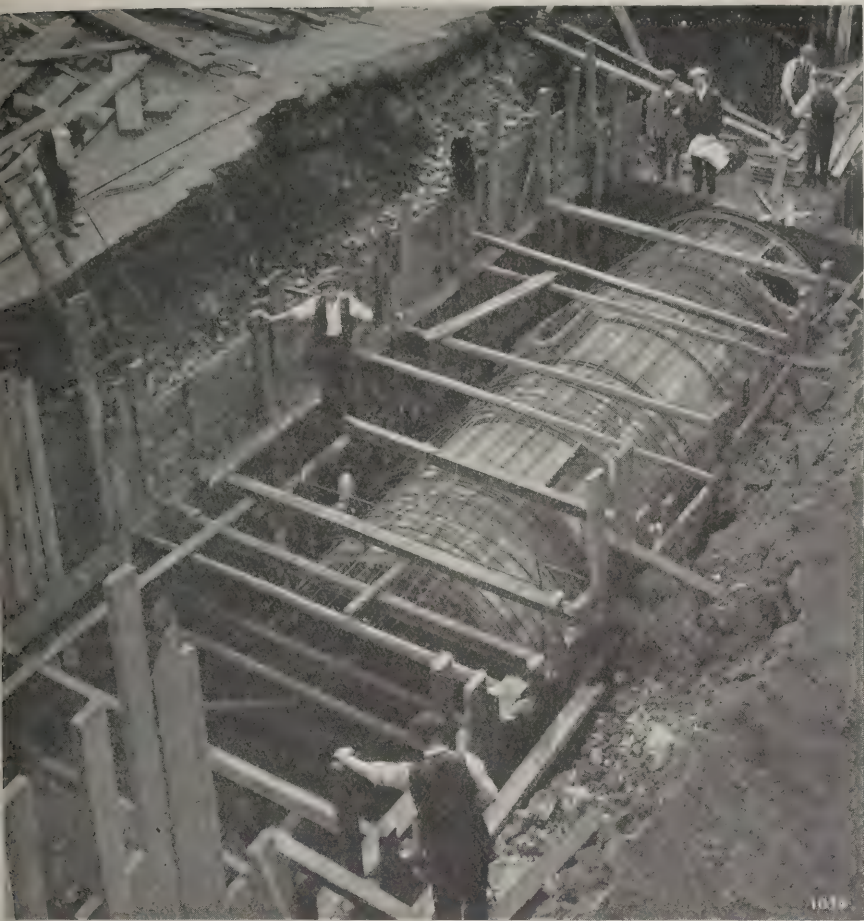


FIG. 2.—TUNNEL IN COURSE OF CONSTRUCTION.

two 12-in. by 6-in. beams. The plat-  
forms and rail beams are connected at two  
points in each bay by struts in order to  
prevent the rail beams laterally. A straight  
cut is provided in the beams at two points  
with a 1-in. space to allow for movement  
of them due to temperature.  
Underneath the gantry and forming its  
foundation is a tunnel 11 ft. 3 in. high and  
14 ft. wide, with 10-in. walls and a 10-in.  
hemispherical roof in which openings for  
vents are provided. At right angles to  
the main tunnel run four subsidiary  
tunnels which connect the new work to the  
existing gantries adjoining. These  
tunnels are 7 ft. high by 4 ft. wide, with  
10-in. floors, walls, and roofs.

As the main tunnel acts as a foundation  
to the gantry the floor is extended beyond  
the walls on either side, making a total  
width of 17 ft.; this was done to reduce the

pressure on the ground to a reasonable  
figure. To withstand the large stresses in-  
volved it was made 14½ in. thick at the  
middle, tapering to 13 in. at the walls and  
5 in. at the edges.

When the many and varied pressures to  
which the tunnel is subjected, causing  
complicated stresses, are considered, it can  
be said without fear of contradiction that  
in no other material could it have been  
built so economically as in reinforced con-  
crete. In Fig. 3 can be seen the great  
thickness it was deemed necessary to make  
the masonry of the existing tunnel when  
compared with the thickness required for  
the new reinforced concrete work, scien-  
tifically designed safely to resist every  
stress set up in it.

The gantry is divided up into four com-  
partments by cross walls 12 in. thick,  
which are supported by two buttresses in  
each cantilevering out of the main tunnel  
walls, the walls spanning between and can-  
tilevering out beyond them on each side.  
These compartments form bunkers for  
storing the ore, the bottom of them being  
made by the tunnel roof and slag paving  
resting in filling and rising at an angle of  
approximately 45 deg. from it on each  
side.

For the length of the last compartment  
at the lower end of the gantry and on the  
side away from the existing work, a retain-  
ing wall is provided to support the filling  
under the paving, on account of the  
ground falling away at this point.

The wall varies in height from 18 ft. 6 in.  
to 23 ft. in three steps, the top being level  
throughout. The base varies from 14 ft.  
wide in the lowest section to 16 ft. in the  
highest. The wall is 9 in. thick at the  
bottom tapering to 5 in. at the top, and is  
supported on counterforts at 8 ft. 7 in.  
centres, the ends joining up with the cross  
walls.

As the toe slab projects a considerable  
distance beyond the face of the wall the  
counterforts are brought out in front at the  
bottom to support it.

On the ridge formed by the paving slop-  
ing up from the new and existing tunnels  
is built a partition wall formed of a 6-in.  
reinforced concrete slab spanning horizon-

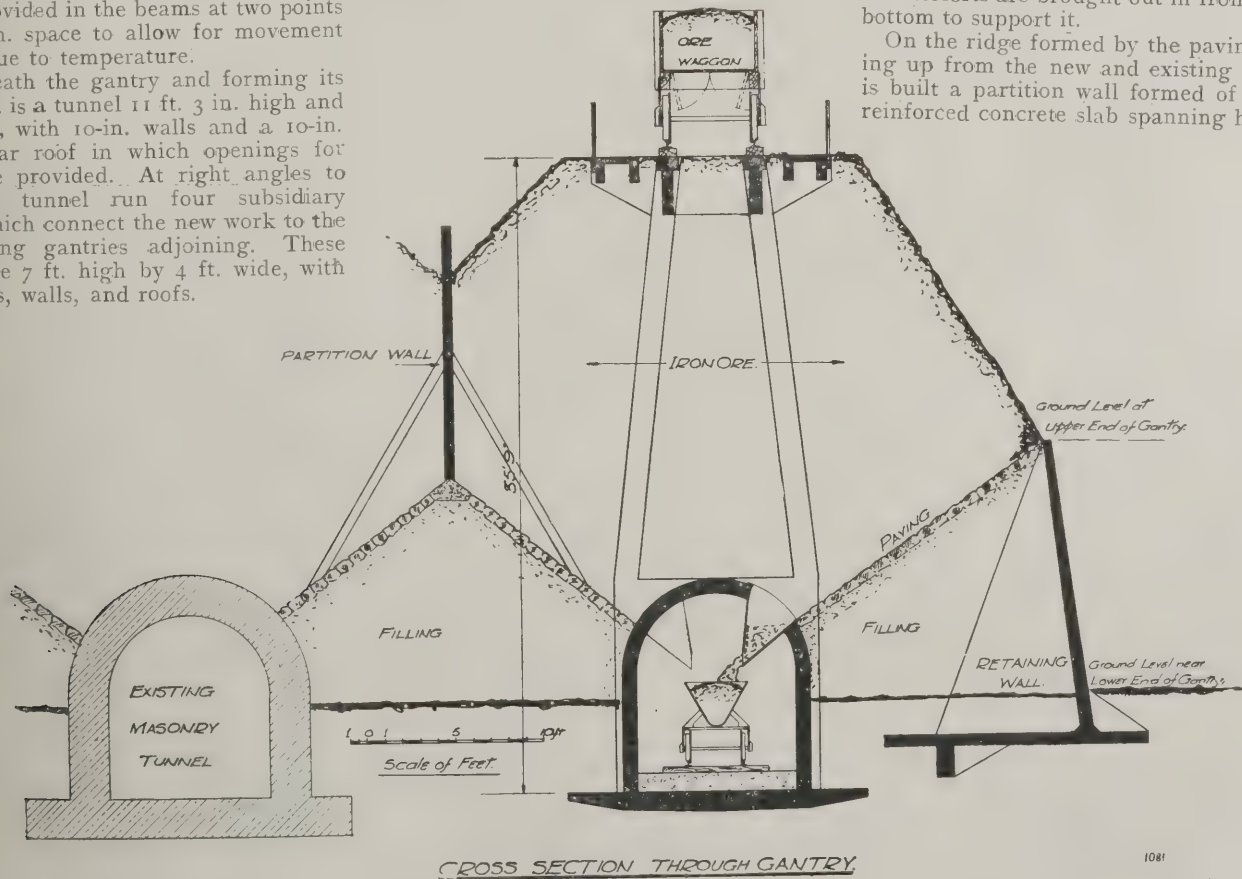


FIG. 3.—ORE STOCK GANTRY, MIDDLESBROUGH: SECTION.



rally between steel verticals stayed on each side.

It was originally intended to construct this wall with 9-in. by 3-in. timbers laid horizontally between the verticals; but it was found that it would be cheaper to substitute a reinforced concrete wall, which is, of course, of much greater strength and durability.

At the higher end of the gantry a shaft 9 ft. square is provided, running up to the level of the rail beams, to ventilate the tunnel, the mouth of the tunnel at the lower end of the gantry being at ground level.

Fig. 2 shows the work during construction: the bars in the tunnel roof fixed ready for concreting being visible.

This ore stock gantry (and bunkers) is, as the name implies, for storing the iron ore until it is required for reduction in the furnaces. The ore is brought on to the gantry in train loads of standard-gauge wagons from ships at the adjacent wharf and emptied down between the rails into the compartments. When the ore is required for the furnaces it is taken away in narrow-gauge wagons, which are filled from the chutes in the tunnel. This, as can be understood, is a method of handling, simple and swift in action and economical in labour.

The work was carried out by Mr. P. T. Kettlewell, of Hull, to the Indented Bar and Concrete Engineering Company's designs

## MATERIALS AND LABOUR AFTER THE WAR.

We print below a summary of evidence given at Edinburgh on September 25, 1918, to the Chairman of the Building Materials Supply Committee under the Ministry of Reconstruction by the following members of the Committee appointed by the Institute of Scottish Architects: Mr. William Kelly, architect, Aberdeen; Mr. T. F. MacLennan, A.R.I.B.A., Edinburgh; Mr. J. M. Dick Peddie, architect, Edinburgh.

The terms of the reference were as follows:

(a) In the event of the supply of material or labour being insufficient to fulfil the total building demand, to consider the principles and method by which the priority of various claims should be settled; and to report what steps are necessary to ensure that the manufacture of the materials, so far as they are at present inadequate, shall be extended in time to secure sufficient quantities for use when required on the cessation of hostilities, and to recommend what steps should be taken during the war to facilitate a prompt commencement of building work at that time.

(b) Generally to consider and report upon any conditions affecting the building trades which tend to cause unduly high prices, and to make recommendations in regard to any measure of control which it may be desirable to exercise over the purchase, production, transport, or distribution of material.

Following is the evidence:

(a) We think there can be little doubt that the supply of materials, and, possibly, of labour, during the "transition period" will fall short of the requirements.

In these circumstances, we are of opinion that in the national interest priority will have to be accorded for a time to constructional work and building operations of certain kinds.

Among these are shipbuilding, the

extension or erection of factories necessary to enable the country to become self-supporting or at least less dependent on foreign supplies, and the building of the large number of houses required for the housing of the working classes and those engaged in production.

We are further of opinion that preference may be necessary for a time for the extension or erection of schools and other educational institutions, and for public buildings essential for the general welfare of the community.

Priority having been extended for the purposes generally indicated above, we are of opinion that all further claims should be dealt with alike, but we venture to suggest that claims for expenditure on war memorials (even to those not of direct utility) should receive special consideration.

To enable claims for priority to be dealt with it is obvious that Government control is essential, but we urge respectfully and strongly (1) that such control should come to an end as soon as that is possible, and (2) that the control should be decentralised, and that for Scotland there should be a department armed with wide powers and responsibility, subject only to the guidance of the central authority.

As regards the steps necessary to provide for increased production of the necessary building materials, we would suggest that, as soon as it is possible to release men from military service, those who were formerly engaged in the production of building materials should be returned to civil life, and that it is even of greater importance that those who were employers, or were engaged in the control of those engaged in production should be released in time to organise the resumption of production.

As a great deal of the wood required for building purposes must continue to be imported, some proportion of the shipping available after the war should be set aside for wood-carrying.

We desire to point out that if building is to be resumed immediately after the termination of hostilities the necessary plans and other arrangements for building must be in readiness beforehand. To that end architects, draughtsmen, and surveyors should be among the first to be returned to civil life.

(b) We have difficulty in suggesting any method of control which could effect a reduction in the cost of building materials, and believe that increased production will automatically and alone tend to reduce unduly high prices.

On the other hand, we think that considerable reduction of prices would follow on better methods of distribution were inland carriage improved and rates reduced.

In our opinion the present excessively high cost of building is due not only to the high prices of materials, but to the unduly high rates of wages. We recognise that the increase in the cost of living and the smaller purchasing power of money together, warranted large advances on pre-war rates; but the standard has risen out of proportion to these causes.

This we believe to be due in great measure to the conditions under which necessary war work has been carried out under Government control; and that when work comes to be done under natural conditions, and without Government control, the rates of wages will return to their true economic level.

We desire to repeat that we believe it to be in the interests of the country that Government control of materials and labour should cease at the earliest moment after national interests no longer demand

such support; and that the cost of building will continue to be artificially higher than it should be, as long as there is interference with the free distribution of building materials and with the conditions of employment.

## OBITUARY.

Major J. M. W. Halley (R.E.),  
F.R.I.B.A.

We greatly regret to learn of the death of Major J. M. W. Halley, who was killed in France last week while supervising the construction of a bridge in the battle zone. Before the war Major Halley was principal assistant in the office of Mr. Mervyn Macartney, and was a frequent contributor to these pages and to the "Architectural Review."

Captain Aubrey C. Finch Hill  
Mr. Eric Rowland Hill.

We deeply regret to record that Mr. A. C. F. Hill died of pneumonia on active service in France on October 24, 1918. Mr. Hill was the third son of the late Mr. Joseph Hill (senior director, Higgs & Hill, Ltd.). He was born in 1874, and was educated at Clifton College. After seeing articles to Mr. C. F. Selby, of Messrs. Corderoy, Selby and Co., he left that firm and acquired the business of Messrs. Foxley and Co., Bayswater. During recent years he erected a number of houses on the Grosvenor Estate.

Mr. Hill joined the Royal Flying Corps in December, 1916. After serving as equipment officer in England, he left for France with his squadron in November, 1917, where his organising abilities found larger scope. For the last six months he was in charge of the erection of a series of aerodromes behind the front lines. He died, leaving a widow and two sons.

Four days after the death of Captain Hill (i.e., on October 28) his brother, Mr. Eric Rowland Hill, youngest son of the late Mr. Joseph Hill, died of pneumonia at Claygate. He was only twenty-nine, and, like Captain Hill, was held in affectionate esteem by all who knew him.



THE LATE CAPTAIN A. C. F. HILL.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

NOVEMBER 13, 1918.

TOTHILL STREET, WESTMINSTER.

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## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in assisting the efforts of the Government Paper Controller to eliminate waste. This they may do in either of two ways—*

1. *By placing a direct subscription for the Journal with the Publisher, or*
2. *By placing with a newsagent an order for its regular delivery.*

## PEACE!

AT the moment of going to press, news comes that Germany has signed the conditions of the armistice for which they were compelled to sue. The firing ceased at 11 a.m. on Monday, November 11. That this is preliminary to a victorious, an immediate, and a lasting peace cannot be doubted; and we who serve the chief of the arts of peace join with fervour in the general rejoicing, but nevertheless do not forget to bow our heads in reverence for our fallen heroes. Their blood has not been shed in vain; the righteous cause for which they died has triumphed gloriously.

### The R.I.B.A. President's Address.

Sound common sense rather than brilliancy or profundity is expected in a presidential address, and Mr. Henry T. Hare, in opening the new session of the R.I.B.A., did not depart from this tradition. With the judicial gravity that is most becoming in a president, he reviewed the immediate past, set out the present position, and very wisely refrained from any very definite attempt to forecast the future. It is no fault of the President's that only well-worn topics were open to him—post-war control of building, the national housing competition, the status of the architect, the question of a great national war memorial. Hardly less familiar is the unsatisfactory state of the law as to rights of light and air, but we are glad to see that the subject was introduced, and that the Council of the Institute has prepared the draft of an amending Bill; for it is surely a grave scandal at the owners or occupants of existing buildings could have it in their power to cripple and mutilate schemes for developing adjacent property. As we have frequently drawn attention to the anomalies of the existing law on this subject, we are naturally disposed to wish the Institute's effort good speed. Legislation of this character really needs an architect to see it through Parliament. Perhaps the impending general election will see a few architects turned. We are in full agreement with Mr. Hare's opinion that "we ought to have our representatives in Parliament," except that we think him too modest in adopting the singular number. One member might suffice to assert the dignity and importance of the profession, but he could not, single-handed, cope with the mass of business to which his attention would be expressly directed.

### British Reconstruction Commission for Belgium.

A British official mission started for Belgium last Thursday to report upon the need for reconstruction. In the announcement of this news, it was stated that the whole matter of reconstruction is being dealt with by the Inter-Allied Reconstruction Commission and a special British Department known

as the Belgian Trade and Reconstruction section of the Department of Overseas Trade. It was stated, also, that the mission consists of Sir Arthur Steel Maitland, Head of the Department of Overseas Trade; Sir E. Wildbore Smith, chairman of the International Commission; Sir Herbert Llewellyn Smith, of the Board of Trade; Mr. Keynes, of the Treasury; Mr. M. N. Kearnew, secretary of the International Commission, and officer-in-charge of the Belgian Reconstruction Commission; Major Pheunis, Belgian delegate; and Major Gunning, American delegate. These gentlemen are to make a tour of inspection of the devastated areas, and report on what is wanted. They are all, no doubt, of high intelligence and blameless lives; but surely there are in existence others who to these excellent qualifications add the mean but useful credential of a knowledge of construction. That, however, appears to be a disqualification where building is the chief object. Bureaucracy is having a great innings, which, however, should not be allowed to survive the impending general election. Scientific attainment and technological training are not much encouraged when it is seen that the sweets of office are commonly bestowed on less relevant grounds. But, henceforth, "kissing-goes-by-favour" principles must be rigorously ruled out by the nation bent upon winning in the great international commercial and industrial conflict that is upon us. Discouragement, however, is not the chief objection to the exclusion or subordination of the expert. A more direct and an immediate effect is that the work, whatever it may be, cannot possibly be so well done by mere "public men" as it could be by those trained and skilled in it. In case it should be said that behind the elegant figureheads forming several recent departmental commissions, committees, or what not, there are solid knowledgeable men at call, that, we would answer, simply worsens the position. Let the solid men be seen and heard, and enjoy such honour and dignity as the position affords.

### "Truth" on the Colwyn Committee Report.

Our contemporary "Truth" does not admire the Report of the Colwyn Committee on Building Construction Contracts. Much the same objections that we urged are reiterated with emphasis, not to say causticity. We complained that the report was belated: our contemporary sees in it "an impressive example of the way in which the Government begin to think about closing the door after the steed has vanished." We were discreetly silent on this point: "Consider, too, what is implied in the recommendation that in the selection of sites attention should be given to such requirements as the availability of labour, light, power, water, sanitation, and road and rail accessibility." and we think it rather too severe to suggest that "The mere fact that advice of this kind has to be proffered to our war bureaucracy is a measure of the incompetence and levity they have exhibited in this as in so much other business." We should as soon think of accusing them of levitation as of levity; for they are, generally speaking, remarkable for their Levitical solemnity, immobility, ponderosity. Nor can we believe that they were actually in need of this elementary knowledge about sites. Surely mortal ignorance—even official ignorance—cannot reach such profound depths. It is preferable to suppose that this advice in the Report is offered and taken in the same spirit of pedantry that leads a learned judge to ask,



"Who is George Robey?" or "What is a Bath brick?" We should cheerfully agree that the recommendation in the Report is solemn nonsense; but it is the better qualified for that description seeing that it was not proffered as instruction, but was thrown in as ballast; which is antagonistic to levity.

#### Costing versus Lump-sum Contracts.

With what our contemporary observes as to the cost-and-profit system of contracting we are not wholly in agreement. "Various types of building contract," he says, "are used by different departments and even by different branches of the same department, but the most popular is the contract under which the contractor gets as profit a percentage of the total cost of construction. He naturally looks upon it as an admirable arrangement. Not only is he relieved of the difficult task of keeping down costs, but he has a direct incentive to run them up, for the greater the expenditure on a job the greater his gain will be." Our satirical contemporary omits—no doubt unintentionally—to state that the Report recommends an amended system of cost contract, in which the contractor's profit does not increase with the expenditure, whilst any delay will be to his prejudice. From the outset, the builder's profit will be fixed, and will not vary with the actual expenditure. It is a pity that these recommendations were not mentioned in "Truth," because they happen to be vital to an important issue. Certainly they would not have become necessary, but for the bungling which our contemporary very properly reprobates; but failure to take notice of the safeguards that convert a vicious system into one that is wholly admirable must be unintentional to be in any degree excusable. It is not only unfair; it is likely to do much harm by setting up an unwarranted prejudice against a system which, properly applied, has many virtues, and which, theoretically the soundest and best, preserves that character in practice where the builder has a reputation to maintain. In candour it should also have been acknowledged that, so long as the market for labour and materials is abnormal and fluctuating, a lump-sum contract estimate can be no better than wild guess-work, whereas a prime-cost contract implies absolute ascertainment by weight and measure, the client paying for what he gets in goods and services, no more and no less. What the architect and the contractor receive for their highly skilled services will not be begrudged, for it will have been well earned. In the case of the builder, payment will not necessarily be based on the cost of the work—the Colwyn Committee suggest a fixed profit. At any rate, in the ordinary run of work, the builder's chief interest lies obviously in carrying it through as expeditiously and as economically as possible; because the success of his business depends mainly on these conditions. On the further and very vital point of quality in workmanship and material, the advantages are unequivocally with the cost system of contract.

#### To Solve Industrial Problems.

To know what the workers are thinking is to be at least half-way towards the solution of the serious industrial problems that confront us. For various reasons it is, however, very difficult to ascertain the minds of the workers, and that is possibly one of the reasons why they so frequently repudiate their leaders, who, it may be, are at a loss to interpret the aspirations of the bulk of the men they are supposed to represent. No means of arriving at a better understanding of the great industrial problems of the day should be neglected; and on this ground, as well as for other reasons, a "Christmas Competition" that has been arranged for the employees at Messrs. Higgs and Hill's Crown Works arrests attention, and seems worthy of imita-

tion. There has been published recently, Messrs. Nisbet and Co., Ltd., a remarkable book entitled "From War to Work," by Mr. Sam Turner, who deals in a simple, commonsense way with some of the most pressing industrial problems of the immediate future. In a succession of charming chapters he deals with subjects in which employers and employed alike are vitally interested—that is, with the more practical aspects of the economics of industry. Mastery of this little book would dissipate many fallacies and destroy heresy. It is, in effect, an inducement to think out independently the problems discussed; for the author states them very fairly, and does not draw dogmatic conclusions from his premises.

#### An Example for Imitation.

It would be of enormous advantage if employers and employed would concentrate their intelligence on these problems, and would pool the results in hard practical thinking. Messrs. Higgs and Hill have hit upon a very ingenious method of stimulating in a subject commonly shunned. They have offered prizes for the best selection of passages taken from Mr. Turner's book, and, in judging the competition, marks will be awarded for comments showing how the citations apply to the building trade, or, conversely, how and why they are inapplicable to it. This particular competition may effect very much in itself, but it obviously merits for enlightenment on both sides of the argument. It should reveal a little of what the workers are thinking, and should lead a few of them to larger and more disinterested views of the situation than those hitherto prevailing. Obviously this competition is both interesting and educational—alas! these qualities are so seldom united!—and offers, for example that, if widely imitated (not necessarily in identical lines, but in the spirit of its endeavour to enlist the co-operation of the workers in threshing industrial problems) may ultimately result in the clearing up of many mysteries of industrial economy.

#### The Late Major J. M. W. Halley, F.R.I.B.A.

It was with a deep sense of personal loss that we recorded last week the death in action of Major J. M. W. Halley, F.R.I.B.A., for he had been long a valuable occasional contributor to this Journal and to the "Architectural Review," and, indeed, he had for a short time collaborated with us in the office. John Mitchell White Halley was born in 1877, educated in the Glasgow School of Art. After leaving Messrs. Thomson and Sandilands, in Glasgow, he commenced practice in London in 1907, and did congenial work, and equally congenial camaraderie in the office of Mr. Mervyn E. Macartney, who deeply deplored the loss of an assistant whose strong artistic bent and sound taste would ultimately be materialised in something more substantial than his charming essays he contributed to the architectural Press, and more striking than the pretty little cottages which were the main fruit of his architectural practice. Halley, with his handsome presence, his boyishness of demeanour, his dry humour, his imperturbable good-temper, was a prime favourite wherever he went, and to us it is inexpressibly sad to think that his smiling presence will cheer us no more. A few weeks ago he was home on leave, and dropped in to see us. Strange it was to see that one whose it had been to pose as "a languid and limp young man" at such æsthetic haunts as the Chelsea Club should so soon have been transformed to the smart soldier he became. And, according to the information, he died the death of a hero. He was with the Royal Engineers, and was building a bridge over a shell-fire, and went to the work cheerfully, well knowing that he was going to his death.



## HERE AND THERE.

OF the two great Victorian Utopia books, William Morris's "News from Nowhere" and Samuel Butler's "Erewhon" (strange what poverty of attention besets the titles of books of this type—Utopia, Nowhere, and Erewhon being identical or interchangeable), it is to be supposed that Butler's is more widely, or perhaps it would be safer to say less narrowly read. Publishers' statistics might set this conclusion, which I draw from the fact, undeniably significant, that lately Butler is much the more frequently quoted. On the other hand, Morris's book was first issued in serial form in a Socialist periodical, and has been circulated since in a cheap paper-covered volume, as well as in cloth. Butler's chapters also made their first appearance in periodicals, so far as I know, the several editions in volume form have all been respectably bound in cloth, the stiff covers commanding a correspondingly stiff price.

Assuming that I am right as to the relative present popularity of these two books, what is the reason for the predominance of Butler? It is to be found, I think, in his pervasive sardonic humour. He seems to have subscribed to the theory that "Life is mainly froth and bubble," whereas Morris felt too deeply to be much for light jesting. He joked seldom and with a difficulty, while Butler is so perseveringly humorous that you cannot always feel quite certain whether he is in earnest or whether he is merely pulling your leg. It is, however, in his other books more frequently than in "Erewhon" that this point is decided. One is never in doubt, for instance, as to what he is driving at in his whimsical references to Utopia. He tells us, in his thirteenth chapter, that the Erewhonians do not put up statues nor build monuments to their dead. "They have statues of themselves made while they are still alive (those, that is, who can afford it), and write inscriptions under them which are often quite as untruthful as are our epitaphs—only in another way. For they do not care to describe themselves as victims to ill-temper, jealousy, covetousness, and the like, but almost always claim to be personal beauty, whether they have it or not, and, often, to the possession of a large sum in the national debt of the country."

If a person is ugly he does not sit as a model for a statue, although it bears his name. He gets the handsomest of his friends to sit for him, and one of the ways of paying a compliment to another is to get him to sit for such a statue." This is not only excellent fooling: it will be recognised as clever and elegant satire. What is said about public statues is no more severe, and the satire is a little more obvious. In four or five hundred years before the author's time in Erewhon, the capital "had been so overrun with statues that there was no getting about, and people were worried beyond endurance by having their attention called at every touch and turn to something which, if they had attended to it, they found not to concern them." A plethora of statues might disappoint the diligent interest, but will never disturb inveterate idlers. Mere effigies in bronze and marble do not appeal to the public—do not even excite derision. In fact, like the Westminster statue of Sir S. H. Erlow, who carries an umbrella, they are univocally ridiculous. It ought not to require any keen sense of humour to perceive the absurdity of a man with an umbrella, but, in fact, ninety-nine out of a hundred casual observers would see nothing to smile at when rain is pelting down on Sir Sydney's bald head, and he is at once seen to be insufficiently sensible to put up his umbrella. Yet nothing more

imbecile could easily be devised than an expensively clothed middle-aged gentleman standing out in the pouring rain with his hat off and his umbrella out of action.

I doubt very much whether the general public laugh at or despise the Griffin that cumbers the ground on the site of old Temple Bar. It was the newspaper wits who saw and proclaimed its monstrosity, who called it the "Thing of Beauty and German Cooking Stove." I fear that such of the general public as are designed to look at it rather admired it. Mothers like to call the attention of their children to the pretty little stone dolls that adorn the pedestal. What our shoals of American visitors must think of it and of us for tolerating it I dare not conjecture. Our one consolation is that it was made by a German. That, however, is no reason for harbouring it. Too long has it made us the laughing-stock of foreign visitors, who take it as an index to the volume of our national taste. According to Samuel Butler, the Erewhonians passed an Act "to the effect that no statue of any public man or woman should be allowed to remain unbroken for more than fifty years, unless at the end of that time a jury of twenty-four men taken at random from the street pronounced in favour of its being allowed a second fifty years of life. Every fifty years this reconsideration was to be repeated, and unless there was a majority of eighteen in favour of the retention of the statue, it was to be destroyed." It would have been a simpler plan, the author supposes, "to forbid the erection of a statue to any public man or woman till he or she had been dead at least one hundred years."

"He or she." Well, Queen Anne has been long dead, and her statue in front of St. Paul's has passed at least one of these severe tests, perhaps both. When some lunatic hacked off her nose, and the other members of the group had become disfigured, weather-stained, and otherwise qualified for scrapping, the Dean and Chapter, who could have read neither "Erewhon" nor the signs of the times, caused the monument to be renovated. It could be the better spared were it not for the rarity of statues to women. But the Queen's dress is hideous. Any ephemeral fashion in dress, of male or female, becomes unendurable as soon as the fashion alters. Why, then, perpetuate it in bronze or stone? A toga, of course, is in fashion perennially, but it sits awkwardly on a Saxon with side-whiskers; and even Dr. Johnson, whose mind was of Classic mould if his body was not, wears it with a grace no better than Batavian. I am referring, of course, to the statue in St. Paul's.

Another ungainly statue that I for one would consign to the scrap-heap is that of Rowland Hill. I forget where it is stationed—somewhere near the Stock Exchange (not the General Post Office), if I remember rightly—but I remember very distinctly the painful realism with which the conscientious sculptor wrought the smug gentleman's whiskers, his cravat, and other desolating memorials of the most distressing period through which art has ever passed. No wonder that persons are writing to the newspapers to protest against the persistency of "dittoes," and to advocate the revival of buckled shoes, silk stockings, knee-breeches, and three-cornered hats. All statues are more or less reminiscent of Guy Fawkes Day; and it was sensible of the people of Erewhon to commission sculptors *not* to make statues. An abuse of this admirable custom was that the competition for the commission not to make a statue became too keen.

DIAGENES.



## THE R.I.B.A. PRESIDENTIAL ADDRESS.\*

BY HENRY T. HARE, P.R.I.B.A.

LADIES AND GENTLEMEN,—When we look back upon the years which have passed since the great catastrophe overtook us, and compare our outlook at each of our annual opening meetings with that which lies before us to-day, there is substantial reason for congratulation. We have always been able to contemplate the future with confidence, and each of the annual addresses has concluded with the hope and expectation of peace being once more with us during the succeeding twelve months. Looking back over that dreary period of hope deferred, we are now able to see events in something approaching a true perspective and to realise that those years have been occupied in organisation and preparation for the wonderful events which we are witnessing day by day. We meet under the happiest auspices, seeing before us a definite prospect of an early conclusion of the sacrifices and horrors from which we have been suffering, and we are able to look forward to the restoration of peace within a measurable time—a peace which we all hope and trust will be lasting and permanent, “broad based upon the people’s will,” and so inspired and regulated as to lead to the happiness and prosperity of the whole world, whose ideals have been uplifted and purified by this long period of suffering and trial.

We stand to-day at the threshold of a new era. Our whole system and scheme of life have been dislocated and virtually destroyed. Industry, commerce, and society must be reconstructed and reconstituted on a new plan to meet the altered conditions. We have the opportunity of making a new beginning, and it is for us to approach the complex problems which face us with open minds anxious to build upon a sure and solid foundation, endeavouring to keep all the various factors before us in due and proper relation.

*“Reconstruction.”*

Reconstruction is the comprehensive word which expresses the problem which faces our country in every industry, calling, and profession. In our own case, the practice of our art during these years of war has been almost entirely in abeyance. We have had to submit to restrictions greater than those imposed upon any other profession, and we have done so cheerfully and willingly. Our younger members have with one accord diverted their energies from the arts of peace to those of war, and while we are proud of what they have accomplished, we remember with sadness, though with gratitude, those who have fallen in the struggle. We shall welcome those who come back to us, and endeavour to make their return to peaceful occupations as easy as may be.

I have alluded to the restrictions which have been placed upon our work, which have borne very hardly on most of us. We have submitted without complaint because we knew that it was necessary and essential to divert the whole energy and resources of the Empire to the one purpose of defeating a thoroughly organised and well-prepared enemy. With the restoration of peace that necessity will exist no longer, and we feel that we should not be asked to bear longer than is vitally necessary a special burden which other members of the community do not share. It will be within your recollection that early in the present year a general meeting was held here at which a resolution was passed for transmission to the authorities asking that on the conclusion of peace all such restrictions should be removed forthwith. That resolution was duly conveyed to the proper quarter.

*Control of Materials After the War.*

Following that, a conference of architects, surveyors, and builders was held for the purpose of considering some of the problems which will arise after the war, at which a similar resolution was passed pointing out that the abolition of control in all matters relating to building, and particularly in materials, is the best means of stimulating production, which is of the most vital importance. That resolution was conveyed to the Minister of Reconstruction by an influential deputation, and the considerations which influenced our opinion were fully explained. We were received most sympathetically, but, notwithstanding our efforts, I gather that some measure of control or restriction is to be imposed, though there is reason to believe that it will be of such a nature as to bear as lightly as possible upon the community, and that relaxation will be so rapid as to allow of a speedy return to normal conditions.

The necessity for some control is apparently dictated by the shortage which is anticipated in certain building materials, more particularly timber, which is mainly an imported product. Whether this shortage will be really so acute as some of us think is open to question, but, however that may be, the view is that measures should be taken to divert the supply available towards the most necessary and urgent national needs. This is quite a logical attitude, but it seems to some of us that control is not really essential, at all events in such building works as do not require materials of which there is a serious shortage.

*Timber From America.*

The supply of timber from the Baltic, which has hitherto been our main source of supply, will probably be greatly restricted for some time, and it will be necessary for us to look to other countries. In connection I wish to call your attention to the exhibition which is installed here of timber from the United States and British Columbia, timber which is in every sense inferior to that we have been accustomed to, and which is available in unlimited quantities, assuming that the question of transport can be satisfactorily provided for, which I am assured will be the case. I need not remind you of the invaluable assistance and loyal support which have been freely afforded us by our great Dominion of Canada, in common with all our other Colonies and Dependencies. They have poured out blood and treasure without stint or pause. Surely it is our duty as well as our interest to support the staple industry of the Western States as far as may be practicable. I commend to all architects the careful consideration of this exhibition, and would urge them to provide for the use of such timber so far as may be possible in the buildings they are about to be engaged upon.

The same conference to which I have above alluded passed a resolution dealing with demobilisation, which urged that architects and surveyors should have priority of release from military service on the ground that their work is a primary necessity for the reconstruction of the building industry. A deputation conveyed this resolution to the Ministry of Labour, and I believe that our suggestion will be acted upon, so that the Institute will be asked to co-operate in carrying it out.

*The Young Man's Professional Training.*

A difficult problem confronts us in the resettlement of architects who will be returning to civil life, more particularly those who were but partially educated in their profession and those whose studies were interrupted. It is a very serious matter for these young

\* Delivered at the opening meeting of the 1913-19 Session of the R.I.B.A., November 4, 1918.



to have lost four years of study and to have the of their qualification put forward to that extent. It is, of course, essential that they should be thoroughly qualified by a proper period of study and experience, every facility must be given them to acquire the requisite proficiency in the shortest possible period, and this matter has engaged the attention of the Board of Architectural Education, who are making concessions as may be possible. For such men will be released from the Army without any professional training I very much doubt whether architecture can be regarded as a desirable profession for them to enter, unless they are in a position to devote something approaching to the normal years of study to their qualification.

### *Housing.*

You are aware that about a year ago, at the instance of the Local Government Board, we instituted a competition amongst architects in England and Wales for designs for houses for the working classes to be built immediately after the war by local authorities. Such houses have hitherto been built mainly by speculating builders without the intervention of an architect, but we now felt that the problem is worthy of more serious consideration than it has received. The programme of our competition was carefully drawn up, was conducted in conjunction with our Allied Societies in six separate centres, so arranged as to embrace the whole of England and Wales. The response made by the profession has been most gratifying, and most of you, no doubt, have seen the results exhibited on the walls of our galleries. Designs of different types of houses have been selected in each centre, and these are to be published at once in book form with descriptive letterpress.

It was not to be expected that such a competition would produce anything very original or revolutionary, the problem is of too simple a nature to allow of it. The real solution lies in a carefully considered balance of parts—in fact, a compromise in which the importance of each feature is duly weighed and given its correct relative position. I think many of our selected designs have very fairly secured this, though I would say that any individual design is not capable of improvement in some particular. One of the main purposes which have been served by the holding of the competition is to identify architects more fully than hitherto been the case with this class of building. I have some confidence that local authorities will, in most cases, recognise that it is to their ultimate interest, both financially and otherwise, to employ independent architects to carry out these undertakings. It cannot be too strongly emphasised that in future these houses, which from their number and universal distribution form so large a feature of our towns and country-sides, must be pleasant to look upon, healthy to live in, and carefully studied in their arrangements, and at the same time being economical to build. In order to secure these virtues great skill and mature knowledge are essential in the designer, probably in a rather degree than is required for a more complex and extensive building. The very simplicity of the problem enhances its difficulty.

Following the competition we have suggested to the Local Government Board the desirability of actually building a small number of these cottages in a readily accessible position near London and furnishing some of them ready for occupation, so that they may be inspected and criticised by all those who are interested and serve as a general guide to those who are about to promote housing schemes. It is felt that by no other means can a really satisfactory solution be arrived at, for mere drawings cannot convey the same impression as the actual object in being. I am happy to say that this suggestion has been accepted, and we are considering the details of carrying out the project with the least possible delay.

### *Status of the Architect.*

During the period of inactivity in the legitimate exercise of our profession, we are taking the opportunity of inquiring into the status of the architect. It is felt that, although the course of study and attainment required to equip an architect to carry out his duties efficiently is at least as severe as that required for other professions, from many causes the general public do not appreciate his position adequately. A very large amount of building is carried on either without an architect or under an entirely unqualified practitioner, thus bringing the profession into disrepute and leading to many abuses. The policy of the R.I.B.A. has been for many years to insist upon a very thorough course of training and education to qualify for membership, but unfortunately a large number of architects do not submit themselves to this course, and consequently do not belong to us; indeed, the difficulty of admission may be said to act as a deterrent.

Is there any means by which the building public may be enabled to distinguish between the qualified and the unqualified? Is it practicable, short of actual compulsion, to ensure that every man who seeks to enter the profession shall be properly qualified by education and training to carry out the duties of his position to the satisfaction of his client and the benefit of the community? Have we, hitherto, properly correlated and adjusted the relative importance of the practical business and scientific side of our work with the historical and artistic aspects? Can any steps be usefully taken to organise and unify the profession?

These and kindred questions are now being carefully considered, and the views of those competent to give opinions are being collected and noted with a view to so ordering the policy of the Institute as to lead to a general improvement in the position of the profession.

In this connection it is felt that architects have not hitherto adequately taken their part in public affairs, on many aspects of which they are peculiarly qualified to speak. We ought to have our representative in Parliament, and there are few local bodies which would not be strengthened by the addition of an architect member, who would concern himself with the building projects of the district and its amenities.

I should like to see every town and village with its Amenity Committee consisting of those residents who are interested in its history, monuments, and antiquities. I would have every new building or public improvement subject to the criticism and to some extent to the control of such a body. Here is a wide field for the activity of architects, and one which would enable us to forward the education of the public in artistic questions which are generally lost sight of and submerged in the purely practical and utilitarian aspect.

### *National War Memorial.*

Now that peace appears to be so near to us the question of an adequate War Memorial is pressed upon us more insistently. The events of the past four years are so close to us that we do not realise the magnitude of the achievement which is to be commemorated, how narrowly humanity has escaped a colossal catastrophe, and how great and complete is the victory which is now being secured. Consider how Paris commemorated the Napoleonic epoch in the vast scheme of which the Place de la Concorde is the centre, and how Italy (far from being a rich country) recorded her war of liberation in the Victor Emmanuel Monument in Rome. Yet the events which these memorialise, great as they were, sink into comparative insignificance beside the present great world upheaval.

Surely we can and shall be able to find some means which shall mark for all time in a great and imperial manner the part which our Empire, widespread and world-wide, has taken in these events; some great scheme which shall rise above and



beyond a mere project of estate development, affording a promising field for the activities of the speculative builder. Such a scheme should be centralised in some great monument of a character to excite the imagination and provide a field for the adequate commemoration of the share which every portion of our Empire has taken.

I venture to suggest that the scheme for new Charing Cross Bridge and its approaches and the removal of the station to the Surrey side of the river is such a project; with proper support by the nation at large it is capable of being developed into a truly Imperial project, worthy in every way of the great events which are now developing.

The Royal Academy has recently very properly established a Committee of Artists to assist in the initiation and execution of War Memorials, a very necessary and useful office if we are to avoid former failures. Could not this Committee, enlarged perhaps and put on a somewhat broader basis, take into consideration the question of this great national Memorial, and prepare under its ægis a definite project which would be put forward with all the authority of an entire and united body of all the artists of the Empire? What is wanted, I think, is some such definite proposal, and it is needed without delay. There is no reason why we should wait two or three generations for the realisation of the scheme. It should be carried through with the enthusiasm and energy which the war has called forth, and while the great struggle is fresh in our memory.

#### *Light and Air Disabilities.*

Most of us have, I imagine, at various times during the course of our practice, been confronted and obstructed by the difficulties arising from our absurd and illogical laws (or absence of laws) in respect of light and air. As matters stand at present, an owner of property who wishes to rebuild is liable to be prevented from properly developing his site within the limits of the Building Acts by the dominant rights of adjoining owners acquired simply by lapse of time, and without any payment consideration or purchase. This is a very serious disability, and leads to the mutilation and crippling of many fine buildings. So far as I know, no other country suffers from such a condition of the law.

The Council have considered whether any steps can be taken to amend the law (without, of course, interfering with any rights already acquired), and the draft of a Bill has been prepared, the object of which is to prevent after a date to be fixed the acquisition of any indefeasible rights over adjoining property merely by the lapse of time.

The present moment appears to be a favourable time for putting forward such an amendment, as it is understood that shortly after the conclusion of peace a number of alterations in various laws are to be put forward, with a view to simplifying matters and avoiding needless litigation.

I need hardly say that a full opportunity will be given to members to discuss this proposal in a general meeting at an early date.

I should like to take this opportunity of congratulating our respected member, Mr. Banister Fletcher, on his election as Sheriff of the City of London. He and his father before him have had a long connection with the R.I.B.A., and it is gratifying to us to see him holding this post of high honour in our venerable city. We wish him every success during what promises to be a very memorable year.

I fear I have detained you too long, but I am sure you will see that we are confronted with many grave problems whose solution will demand all the wisdom we can command. The coming year is to be one of the most eventful in all history, and on the deci-

sions to be taken will depend the welfare and prosperity of future generations. We look forward to the immediate future with high hope and confident expectation, feeling that we have passed through the worst days of trial and anxiety, and that we may at last emerge into a period of peace and prosperity.

#### *Discussion.*

Mr. John W. Simpson, F.R.I.B.A., proposing a vote of thanks to the President, said they had listened to an exceedingly practical and useful address. No speech in these days could avoid a reference to the war, and he believed that for many years to come the Presidential addresses would still be based upon problems which it involved. Mr. Hare had very rightly made reconstruction the keynote of his address for that was a question that most closely and urgently affected architects. He (Mr. Simpson) believed was speaking not only for that Institute, but for the whole building industry when he insisted that the present restrictions should be removed forthwith upon the cessation of hostilities. It was quite possible that they might be short of some raw materials—particularly timber and some metals—for a time, and probably they would have to agree upon some measure of allocation, but the shortage would soon cease if supply and demand were left free mutually to adjust themselves. They heard bland assurances that it was intended to remove control as soon as possible, but he was somewhat mistrustful of that promise. The officials in charge of the many Government Departments which had sprung up had come to consider themselves essential, and strong rearguard action would be fought to delay their suppression and to save their stores—those gigantic piles of correspondence, returns, forms, and orders which had accumulated, which the people intended should be consigned to the pulping mills. He hoped that at the forthcoming General Election they would try to obtain the most definite assurances from candidates that those Departments should be abolished root and branch. He knew that the President was at one with him in that matter and they must congratulate the Institute upon the step which it was taking to safeguard their interests.

Another point on which the Institute was to be congratulated was its choice of a President. They had always been very fortunate in that respect. He could recall eighteen different Presidents, the first of whom was George Edmund Street, and he thought it might be said that in every case they were the best and most suitable men who could have been chosen, and Mr. Hare was no exception to the rule. (Hear, hear.) He believed that was because architects, although they criticised one another and their work very openly and very freely, were almost entirely free from jealousy. The custom which prevailed of open and loyal competition by means of submitted work had taught them to give and receive hard knocks without bitterness, and so when a man was entrusted with an important commission, or a Royal honour fell in his way, or was called to some office of dignity like Mr. Sher Banister Fletcher, all his brethren rejoiced in his good fortune and felt themselves honoured. He was proud to belong to a profession which could make such a claim, and that was why they were able to select their Presidents instead of taking them by rotation of seniority—in fact, that was why Mr. Hare was occupying his present position.

Mr. Perkins Pick, F.R.I.B.A., seconding the motion said he thought they all agreed with the hopeful outlook which the President had indicated in his speech. They had been suffering for a long time behind the clouds, and now that the sun was breaking through they ought to receive some benefit from it. During the past four years architects had suffered perhaps more than any other portion of the community. Their work had not been appreciated, and they had altogether been neglected. That had not been



advantage to the community, because he believed that very large portion of the work which had been carried out by the various Government Departments could have been done cheaper, better, and in less time had architects been taken into consultation. He believed they fully recognised that everyone had to make sacrifices owing to the war, but his contention was that the architectural profession had been unduly hard hit. As to the restrictions which Mr. Hare had referred to, it was, he thought, evident to all of them that some restrictions would be necessary for a period after the war, otherwise those who clamoured unreasonably to get possession of building materials could receive an undue preference.

The cottage competition was, he believed, one of the very best investments the Government had ever made on a small scale, and it was a great thing that the Institute should have gained the confidence of such an important Department as the Local Government

Board. He felt sure that the result of the competition would be helpful to all those authorities who were considering the provision of houses for the working classes.

He thoroughly endorsed what Mr. Hare had said in regard to the unsatisfactory condition of the laws in regard to light and air. He surmised there was not one of them who had not come across cases of iniquity and injustice under that head, and if the Institute could bring about an alteration in the law it would be a benefit to the community and to architects and builders generally.

Having congratulated Mr. Hare upon the success of his Presidency during a very difficult period, Mr. Pick concluded by remarking that so far the Institute had always chosen a President from the metropolitan area. He suggested that the time ought not to be far distant when possibly some member from the provinces might be elected to that honourable position.

## A NOTE ON TRIESTE.

WITH the surrender of the Austrians, "Italia Irredenta" has no further significance for our Italian Allies, who now advance to the achievement of their just national aspirations. The possession of Trieste in particular is momentous for more than the sentimental reason of conquest; it means the regaining by Italy of a lost jewel to the crown. For, despite the many vicissitudes it has suffered, this colony of Tergeste, planted by Augustus in Istria, is as truly Italian as Spalato and other towns on the Dalmatian coast. The population, sympathy and language is Italian, and most of the buildings, though in the main the product of Austrian architects, exhibit marked Franco-Italian tendencies. For two thousand years the city has been a bone of contention between rival states. It was a place of some importance long before the Roman conquest in 178 B.C., and was leagued with other seaports on the Adriatic shore, whence issued the pirates who plundered the Adriatic. The Romans fortified the neighbouring

city of Aquileja to keep the Istrians and other tribes in check, and moving in force from the latter place brought the entire province under their dominion. Trieste was reduced to the status of an ante-mural fortress, a mere outpost of Aquileja. From this subordinate position it rose during the Augustan age to be the market of the cis-Danubian provinces.

With the transference of the Roman capital to the East, and during the Gothic domination of Italy, the condition of this maritime port was by no means bad. The devastating hordes of Attila swept clear of its walls, but destroyed Aquileja, spreading ruin in their path. Eventually the Byzantines held the city until 789, when it passed to the Franks.

Trieste was visited by the Venetians in 1202, while on their way to the conquest of Constantinople, and the inhabitants promised obedience and naval support. With the peace of Turin in 1381, which ended the enmity between the rival republics of Genoa and Venice, the seaport was recognised as independent of

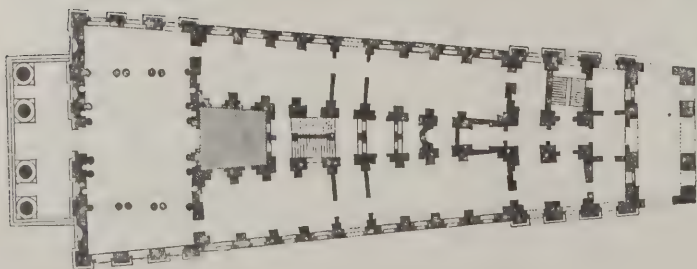


GENERAL VIEW OF TRIESTE HARBOUR.





THE GRAND THEATRE, TRIESTE. PERTSCH, ARCHITECT.



THE BOURSE, TRIESTE. MOLARI, ARCHITECT.



PALAZZO CASCIOTTI, TRIESTE. PERTSCH, ARCHITECT.

Venetian suzerainty; but in the following year the city was yielded in perpetual dominion to the then Duke of Austria, for it was thought that with so powerful support there could be no question of its becoming the most important market of the Mediterranean. This procedure aroused the enmity of the Venetians, and after many threats a treaty was concluded.

Charles V., who came to the dominion of the Austrian states while King of Spain and Sicily, realized the importance of the place for commerce, and prepared for its improvement; but other factors intervened, and affairs were maintained on their old course. The Venetians were becoming increasingly jealous, and would gladly have held the city, which they occupied for a short time in 1508. In the early years of the seventeenth century Venice was in undisputed control of the Adriatic, while the Austrians had the burden of rebuilding Trieste, now reduced to a population of three thousand.

By the third quarter of the eighteenth century the port became the most prosperous in the Adriatic. At the tide of Napoleon's ambition was sweeping over.

By the Treaty of Presburg, after the victory at Austerlitz, Venice, Friuli, Istria, and Dalmatia were joined to the kingdom of Italy. Trieste was constituted part of the province of Illyria, and suffered during the naval blockade. At the Congress of Vienna it was restored to Austrian domination and was absorbed into the kingdom of Illyria: it was allowed, however, to retain its character of a free port.

The nineteenth century witnessed the rise of the city to a position independent of, and quite distinct from, the neighbouring littoral, and it soon became what its natural advantages had predetermined—principal seaport of the now vanished Dual Monarchy with the title of Imperial City.

The harbour is in the form of a gigantic crescent facing north-west. It is bounded on the south-west by the lighthouse mole, and on the north-east by the new Lazaretto, with anchorage for vessels and a quarantine.

Prominent among the buildings erected in Trieste during the Napoleonic period is the Bourse, which, although no longer used as an exchange, still bears its name; it contains the offices of the Chamber of Commerce and Industry. This building was designed by Molari in 1802. The accompanying illustrations show the magnificent portico, of Roman Doric





Photo : F. Snary, Bristol.

EARLY NINETEENTH-CENTURY ARCHITECTURE. VI.—PREMISES IN UNION STREET, BRISTOL.



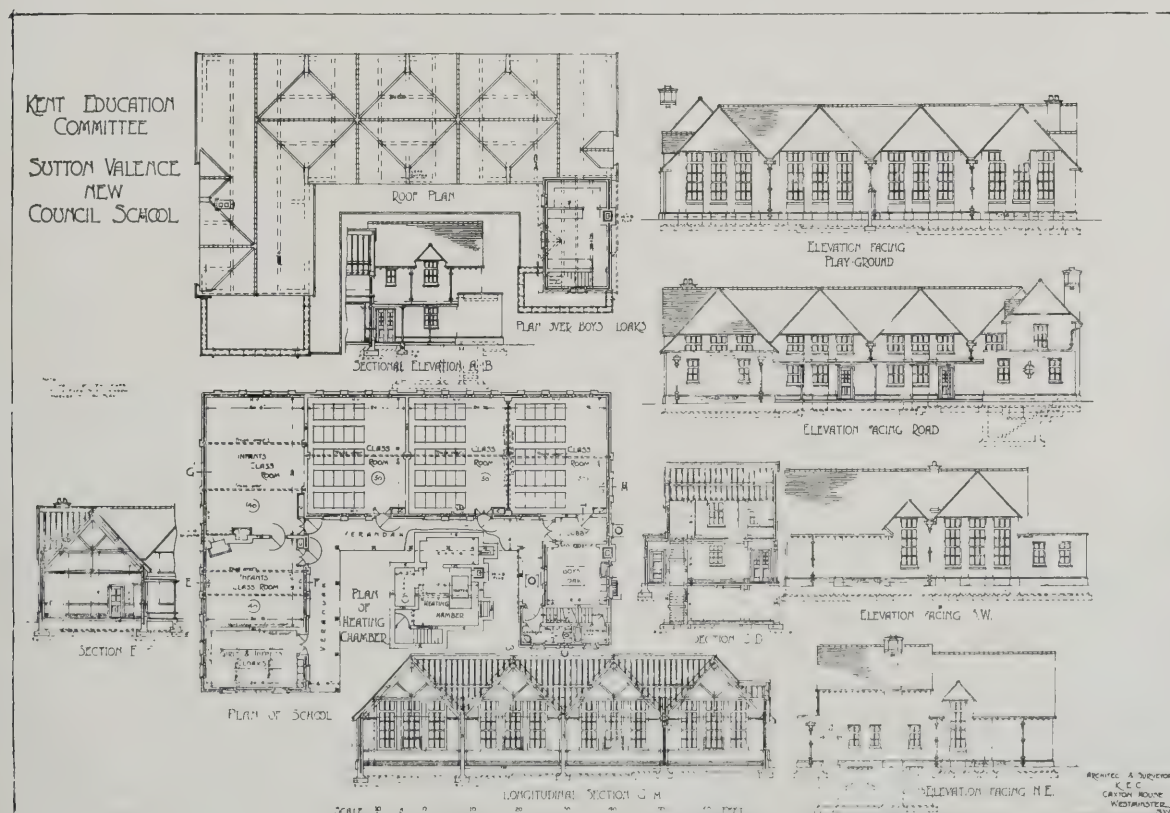
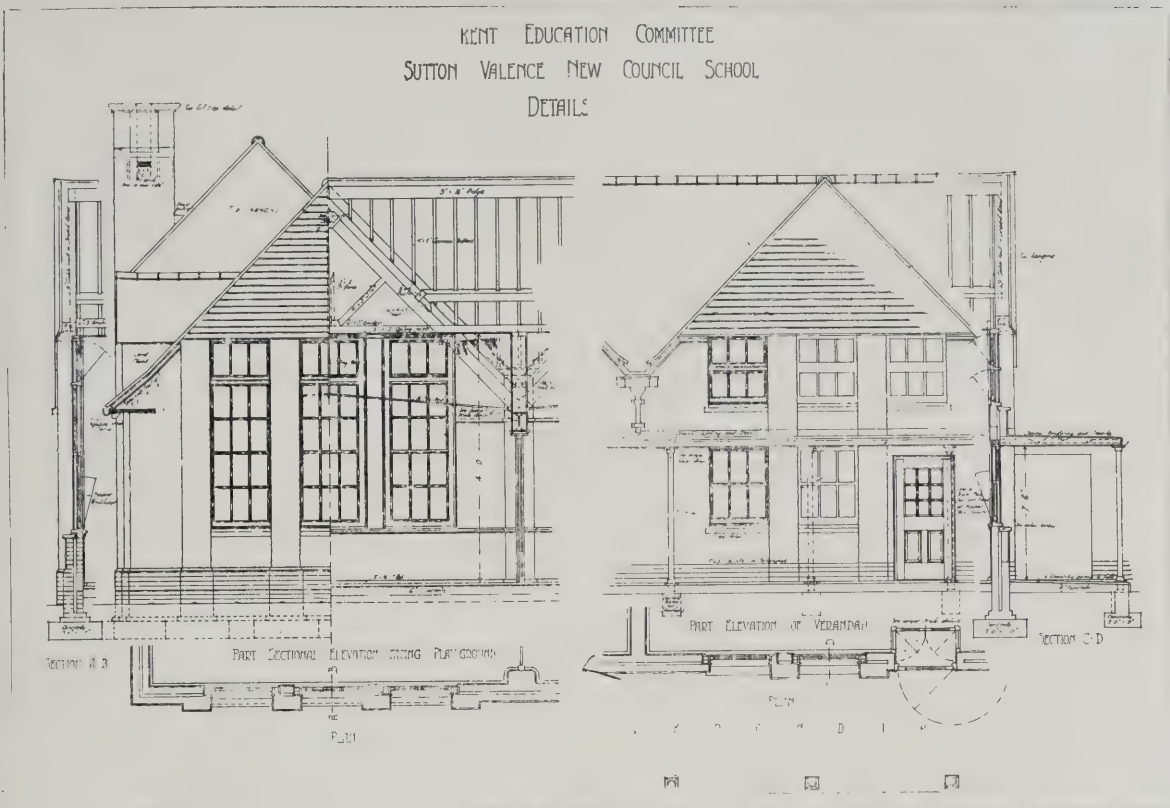




DETAILS OF CRAFTSMANSHIP (SERIES III). XLV.—CARVED WOOD PANEL REPRESENTING "SCIENCE AND ARCHITECTURE,"  
IN THE LIBRARY OF AUSTRALIA HOUSE, STRAND, LONDON.







CURRENT ARCHITECTURE (SERIES VI.). II.—SUTTON VALENTINE COUNCIL SCHOOL, KENT.  
WILFRID H. ROBINSON, M.S.A., COUNTY EDUCATION ARCHITECT.



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MONUMENTS. XLV.—TRIUMPHAL ARCH, PIAZZA CAVOUR, FLORENCE.

GIADOT, ARCHITECT



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unusual disposition of the plan necessitated by the converging streets.

Pertsch's design for the front to the Grand Theatre is rather a prosaic piece of work; but his Palazzo Casciotti is a revelation of modern composition. It stands near the Hotel de Ville, and was built in 1891 as a town residence for the rich Greek merchant Metrio Casciotti. It is decorated with sculpture illustrating the benefits of commerce and navigation. The external treatment of this building is remarkable for its variety of interest, and the proportions are flawless. Here is to be seen no pedantic application of columns and pilasters, no alternation of pediments and entablatures disturbed by crossettes, but a direct statement of fact expressed in those terms of rich simplicity which always distinguish the work of a master. The design is closely allied to the historic buildings of the Italian Renaissance.

## THE PLATES.

### *Premises in Union Street, Bristol.*

In its sober Classicism the work of the late Georgian period is often severe to the point of dullness, but it is never lacking in dignity and a peculiar sense of scale. These qualities are well exemplified in the premises in Union Street, Bristol, though the interior of the shop naturally suffers from the array of glassware-cases and other assorted addenda.

### *Carved Panel in Australia House.*

This is one of a series of emblematical carved panels in the Library of Australia House. It represents "Designing and Architecture," and consists of a vase encircled with a wreath of laurel, crowned by a shell and a garland of flowers, whilst grouped round the base are the tools, implements, and emblems of the arts indicated. The detail is an excellent example of modern craftsmanship, and is highly creditable to Messrs. Wylie and Lochhead, Ltd., who were responsible for it.

### *Council School at Sutton Valence, Kent.*

Mr. Wilfred H. Robinson, M.S.A., architect to the Kent Education Committee, has erected a large number of schools on the "verandah" principle, that at Sutton Valence, shown by drawings in this issue, being a typical example. The advantages are thorough cross-ventilation and the maximum amount of light and sunshine. The school is heated by low-pressure hot water, the infants' rooms having open fireplaces in addition.

### *Triumphal Arch, Florence.*

This arch was erected in 1745 in memory of the military achievements of Francis of Lorraine. Its general proportions are good, but the monumental effect is somewhat nullified by the excessively elaborate sculpture decoration.



*Photo: F. Snary, Bristol.*

INTERIOR OF PREMISES IN UNION STREET, BRISTOL.

(See also Supplementary Plate.)



## THE AMERICAN TIMBER EXHIBIT AT THE R.I.B.A.

**F**OLLOWING is a précis of the remarks of Mr. John R. Walker, Trade Commissioner of the American Government, made at the Royal Institute of British Architects on October 24 in connection with the exhibit of American timber:

I have gathered together, within the limitations of war times, this small exhibit for the purpose of showing to the British timber-using public the American woods and the shapes and grades which will be available for the work of reconstruction after the war in the largest quantities and upon the most favourable basis of cost.

The architects of this country are to some extent familiar with the species of the timber here exhibited—Southern yellow pine (pitch-pine), and its related species; Douglas fir (Oregon pine), Californian red wood (Sequoia), White pine (yellow pine), and Californian sugar pine—but I am certain that you are entirely unfamiliar with the dimensions and the grades or qualities of these timbers which are exhibited here. These shapes and grades are, however, those which are universally employed in construction work in America, and I may say that America produces and uses more timber than any nation in the world.

### *Standard Grades and Sizes.*

The standard grades and sizes of American timber are unknown in the British market for the reason that the building practice of this country was established years ago in relation to the soft woods of the Baltic. In America our general construction work is done with the hard pines of the south and of the west, and the standard of sizes which we have evolved in connection with these hard pines is different from the standard of sizes which you employ in this market. This difference in sizes rests upon a sound scientific basis, namely, that the strength of the harder pines which we use is greatly superior to the strength of the softer northern woods which this country employs, and, generally speaking, the dimensions which we employ for a given purpose are smaller than those you employ for the same purpose here.

### *American Soft Woods.*

I desire to urge as strongly as I know how upon the British timber-using public that in the reconstruction programme after the war full provision be made for the employment of our American soft woods in the standard grades and sizes in which they are commonly manufactured, and in this connection I would call your attention to the fact that the methods of grading and manufacturing in British Columbia are identically the same as in the Pacific north-west of the United States.

The importance of this question from the broad economic standpoint is that in America we are producing for use some 15,000,000 standards a year of these construction woods, and all according to the standard of grades and sizes here exhibited. Production upon this enormous scale has made it possible to effect tremendous economies in the manufacture of timber as well as to develop a high degree of efficiency in its manufacturing and seasoning. It is clearly to the interest of this country to take advantage of the economy which results from this quantitative production and not to require the American manufacturer to produce a

special product for this market which is not consonant with the physical properties of timber which we are manufacturing and which involves a wastage of raw material and a very greatly enhanced price to the user.

### *Green Sizes and Drying Dimensions.*

Millions of standards of this material are carried in stock ready for shipment by American and Canadian mills, and if this country makes provision for the use of this material in these standard grades and sizes, the available sources of supply for this market will be practically doubled. To illustrate concretely the general situation which I have described, I would state that the general practice in America is to manufacture timber to even inches in width, that is 4, 6, 8, 10 and 12 inches. Scantlings are manufactured in sizes 3 x 2, 4 x 2, 6 x 2, 8 x 2, 10 x 2, and 12 x 2, and the same width 2½ in. by 3 in. in thickness. These sizes, however, are the nominal or green sizes of the material, and in drying these dimensions are reduced. Since the rate of shrinkage in different scantlings is not exactly the same, it is the general practice of the American manufacturer to run scantlings through an equalising machine after they are dry in order to bring them to an exact standard size.

### *Standard Finished Sizes.*

The standard finished size, therefore, of a 4 x 2 is 3½ x 1¾; of a 6 x 2, 5½ x 1¾; of an 8 x 2, 7½ x 1¾; of a 10 x 2, 9½ x 1¾; of a 12 x 2, 11½ x 1¾. My proposal is that in view of the greatly superior strength of southern yellow pine and Douglas fir, the British architect and builder should employ in the place of the usual 7 x 2 Baltic scantling a 6 x 2 American scantling, finished in the scant dimensions above described; in the place of a Baltic 9 x 2 an American 8 x 2; in the place of a Baltic 11 x 2 an American 10 x 2; in the place of a 2½ x 7 Baltic an American 2½ x 6 or an 8 x 2; in the place of a 2½ x 9 Baltic an American 2½ x 8 or a 10 x 2, and in the place of a Baltic 2½ x 11 an American 2½ x 10 or 12 x 12. The employment of these smaller dimensions of American timber would gain 1½ in. in the height of your rooms, and you would still have a margin of superior strength in your floors.

### *Strength Values.*

The comparative strength values of these woods which I have indicated are based upon tests that have been made in this country and our own, and can be generally verified by a comparison in the weight of the American woods with the Baltic woods, for the strength and the weight of wood are usually indirect relation to each other. The Scientific and Industrial Research Department of your Government, however, is now outlining the plans for a series of tests to determine the accuracy of these claims, and when they are completed you will have an authoritative basis upon which to proceed.

### *Mistakes About Sap Wood.*

There are two points in connection with our southern pine timber to which I desire to call your special attention. You will observe here that a considerable portion of this material consists of sap wood. I have frequently seen in English text-books sap wood described as "immature" wood.

This, however, is altogether an inaccurate description. Structurally, the wood is immature, and it has all the strength and vitality of the older heart wood. The only valid objection against sap wood is that it contains an acid which, if not removed through drying or by other means, will produce stain and dry rot if the wood remains in a moist state and with an absence of ventilation. However, you will find no stain upon the sap wood which is exhibited here, and this for the reason that all the wood has been thoroughly dried; in fact, it has been kiln dried, which completely removes the sap and destroys the tendency towards stain and dry rot. Since a considerable portion of the average southern pine tree consists of sap wood, a tremendous saving in cost may be effected by employing this wood, and when it has been thoroughly dried it will serve every purpose that the heart wood will serve in interior construction of a building.

### *Kiln Drying.*

The other point I desire to discuss is the question of kiln-drying. This is a development of comparatively recent years, unlike all new developments, encountered opposition at the outset, and a widespread prejudice still exists against it in this country. This prejudice arose because, in its experimental stage kiln-drying was done as well as it might have been; secondly, because of the inertia which opposes every innovation. Kiln-drying has, however, been perfected, and I say positively that kiln-dried timber is superior to air-seasoned timber. Kiln-drying materially increases the strength of wood as compared with air-seasoned material. It is the quickest and the cheapest way to dry wood, and it practically destroys the tendency of the wood to absorb moisture.

By the same token it limits the extent to which wood contracts and expands under variations of temperature: it heightens the lustre of wood; and, finally, it lightens the weight. No more convincing proof that it does not make wood brittle or otherwise destroy its utility can be found than your nation and ours are now kiln-drying the wood which they use in aeroplane construction.

### *America's Timber Resources.*

This, said Mr. Walker, is the first time that the attempt has been made to place our timber trade as a whole within a new view to seeing if it might be possible to place the whole trade upon a sounder basis. My purpose in coming here is not to attempt to capitalise the fine feeling of friendliness that exists between our countries. I started upon this investigation before my country entered into the war, and its foundation rests upon a much broader basis. All the world is interested in the conservation of its natural resources; our nation is especially interested in the conservation of timber, because it possesses the largest timber resources of any country in the world except Russia, if we include Siberia within Russian Russia. I am here, therefore, to discuss with you in a scientific spirit the question of how we can collaborate to put to its best use the immense timber resources of which my country is the steward.

## CONCRETE COTTAGES.

sending us the interesting design for concrete cottages reproduced below, a respondent, Mr. George H. Bailey, of Shrewsbury, writes as follows:

With reference to your paragraphs in recent issue on "Data for Housing Committees," I am sending you a drawing of a cottage, the suggested construction of which may be of some interest to your readers.

Most of the designs for cottages illustrated in your paper have evidently been based on the assumption that bricks and timber will be available at reasonable prices, and that we may proceed along the old paths and employ the old methods.

At present, and possibly for some time to come, the prices of these materials are, and will be, prohibitive as far as housing is concerned, and the use of concrete becomes necessary.

The drawing practically explains the construction. It is suggested that the whole of the work, under proper supervision, could be carried out by unskilled labour. The concrete could be of quarry waste or furnace clinkers, say,  $\frac{5}{8}$  to dust and cement. Using the concrete raft as a platform, little timber would be necessary for the roof.

It is suggested that a cottage built in this manner would be absolutely dry, ver-

min proof, and of even temperatures; thoroughly substantial and needing little expenditure for upkeep. The actual cost would be considerably less than that of a brick and timber building. The elevation and internal arrangements are susceptible of many variations."

## LEGAL.

## Premises Alleged to be Falling into Decay: Dilapidation Claim.

*Bradshaw v. Priestley.*

October 21. Official Referees' Court. Before Mr. Verey.

In this action the plaintiff, as freeholder of certain houses at Great Turnstile, Holborn, claimed from the defendant, who was the lessee of two of the houses, the sum of £160 odd for dilapidations, the allegation being that he had allowed the premises to fall into decay contrary to the repairing clauses of the lease under which he held. It was alleged that the roof was neglected, so that the rainwater penetrated the structure and caused internal damage, and that two of the chimney stacks were so much out of repair that they required rebuilding.

The defendant said that he had rebuilt the chimney stacks and had repaired the roof as far as he was able with sand and tar, he having found it impossible to pro-

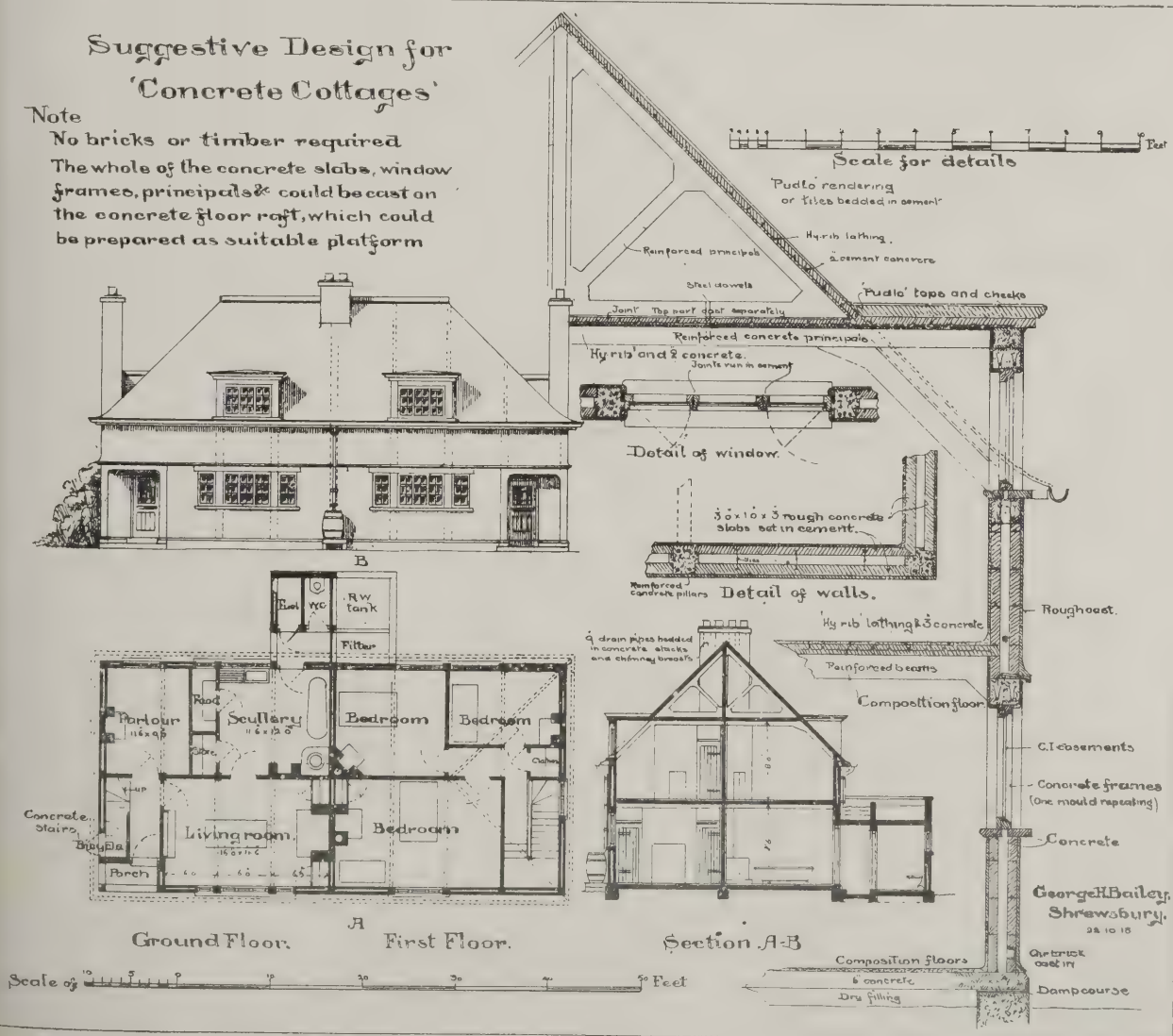
cure new zinc. He also said that he had reconstructed the chimney stacks, and if he had been given time he would have been able to do more.

Mr. Harvey Dyball, architect and surveyor, of 35, Bucklersbury, said that for twenty years he had acted for the Bradshaw Estates, which consisted of a large number of houses. In October, 1917, in accordance with instructions, he surveyed the premises occupied by the defendant, which consisted of two shops on the ground floor and flats over. He found that the exterior was in a very neglected condition. External painting was due, according to the lease, in 1916, but it did not appear to have been done, and the pointing of the roof had not been touched for years. The span roof had also been neglected for years, the tiles being out of line and loose. The whole of the roof was, in fact, in a most unsatisfactory condition, and to put it right would cost £10 18s. It was true the chimney stacks had been rebuilt, but they were both of them shorter than they were before—one by 2 ft. and the other by 1 ft. Certain other repairs had been effected, but they were not in accordance with his requirements. The ceilings were in a sodden and defective condition owing to the percolation of rain water through the roof. He knew it was a troublesome thing to get zinc now, because it was necessary to obtain a Government permit, but it would be granted in urgent cases, and this,

## Suggestive Design for 'Concrete Cottages'

## Note

No bricks or timber required  
The whole of the concrete slabs, window frames, principals &c could be cast on the concrete floor raft, which could be prepared as suitable platform



DESIGN FOR CONCRETE COTTAGES. BY GEORGE H. BAILEY.



he thought, would be regarded as an urgent case. There was a lead-lined cistern on the roof when he made his last inspection in July, but when he went to the premises a few days ago he found that the cistern had gone. It would cost about £15 to replace it. The brickwork was very bad in places, allowing the weather to get into the structure. Witness added that no application had been made to him for an extension of time, and that his total was based upon prices which prevailed in 1917. It would cost a good deal more now.

The Referee, after hearing the evidence on both sides, gave judgment for the plaintiff for possession as asked for, with rent due, and £150 damages in respect of the repairs. By arrangement between the parties it was further ordered that if the defendant did the repairs within three months to the satisfaction of the plaintiff's surveyor he should have relief from the judgment in respect of the damages.

#### Dilapidations : Important Judgment to Builders.

##### *Beaumont v. Hind.*

October 29. Official Referee's Court. Before Mr. Muir Mackenzie.

This action involved important points in regard to the law of dilapidations. The plaintiff was Mr. William Spencer Beaumont, and he claimed from Mr. Stanley Arthur Hind the sum of £1,214 19s. 6d., under the covenant of a lease in respect of dilapidations to thirty-five houses situated in Skidmore Street, Ernest Street, and Duckett Street, Stepney, known as the Beaumont Estate.

The facts are set out in the judgment.

The learned Official Referee, in giving his judgment, said that the controversy was in respect of a claim against a lessee of a number of houses in Stepney. The lease was for ninety-nine years, and expired in March, 1917. When the lease was granted there were only five houses on the land, and the demise included all other houses to be built upon the property. Evidence had been given by skilled witnesses on both sides, and, according to those for the plaintiff, an expenditure of £1,214 was required to put the houses in proper order, together with £60 estimated to be necessary to put the site in a proper condition. According to the evidence for the defence, an expenditure of £184 would have been sufficient to put the houses in repair in the summer of last year. The surveys of the expert witnesses were made after some repairs had been done, and the defendant had paid into Court £201 as sufficient to cover that which was required to be done. On the wording of the covenant to repair arose the question of what were the obligations of the lessee at the end of the term. He gave his decision not as governed by any authority but upon his own reading of the covenants of the lease. It might be said that if the repairing obligations had been fulfilled up to the end of the term the premises would have been in a better condition than if left to the end of the lease. In the present case the questions to be considered were whether the premises at the end of the lease were in good tenantable repair, and if not, what expenditure was required to put them in such a state of repair. It was clear, upon the evidence, that the premises were not in a good tenantable condition such as was required by the covenants of the lease. This was not the case of an old house let for a short term. The houses were all newly built at the time of the granting of the lease, and

they were to be delivered up at the end of ninety-nine years in good tenantable repair fit for the occupation of the class of persons by whom they were to be occupied. With new houses like these were at the time regard must be had to the class of persons by whom they were to be occupied, although the original lessor did not contract that the obligations were to be diminished if the neighbourhood altered in its character. As to some of the houses, plaintiff's advisers were satisfied that at the time the lease expired they were in repair, as he had spent some £210 upon them, mostly to comply with the requirements of the sanitary authorities, and that amount formed part of the claim. He had to estimate the full sum which might reasonably be expected to be necessary to put the premises in repair at the end of the lease, and for this he awarded the plaintiff £550. He considered that as that amount was larger than the sum paid into Court the plaintiff should only receive a portion of the costs. His judgment would be that defendant should pay £550 to the plaintiff, with two-thirds of the costs, the sum paid into Court to be paid out in part satisfaction.

A stay of execution for fourteen days was granted with a view to appeal.

The expert witnesses engaged in the case were, for the plaintiff, Mr. Charles Gordon Smith, of 56, Cannon Street, E.C., and Mr. William Powell, of Kennington Road; and for the defendant, Mr. I. W. Stevens, of New Bridge Street, E.C., and Mr. H. G. Todd, of Regent Street.

## BOOK NOTICE.

### *Beautiful Writing and Lettering.*

What a delightful world this would be if we all cultivated a sense of beauty, and manifested it in our every action. Its presence, its degree of intensity, its absence are most commonly and most clearly seen in our handwriting, which is an index not only to individual character, but to national proclivities and peculiarities, and, taken collectively, is, generally speaking, a truthful witness to the state of art in the country and at the period of its production. German handwriting is the ugliest and the most subtly deceptive ever devised. It is rudely and cynically illegible—a mean, selfish, and cunning hand, having in it harsh and arbitrary devices, pedantic distinctions, Prussian severity in its cruelly acute angles. A hand like that is a most demoralising influence on the people using it, and it is a painful revelation of an entire absence of taste, of manners, or regard for beauty. It is the hand of a people destitute of all feeling for art. How different are the hands of the Italians and the French! These it is always a pleasure to encounter: they show so sweet a regard for good form in every sense of the phrase.

In Britain we have allowed our handwriting to deteriorate to a scandalous degree. One seldom sees nowadays a neat and scholarly hand, and hardly ever a hand that can be termed artistic. Quality is sacrificed to speed; or, where speed is not an object, then we usually get affectation, painful primness, or the laborious and self-conscious hand that is too strongly reminiscent of the copybook to reveal much more of the author's character than his weak dependence on a poor model.

It is marvellous how poor those school-room models usually are. In an excellent manual on "Manuscript Writing and Lettering," the anonymous author repro-

duces (for the sake of comparison with beautiful examples that form the staple of his book) from old copybooks that were issued by respectable publishers, and were accepted by educational authorities as acme of form, some truly shocking examples of mid-Victorian handwriting with its vulgar ostentation of loops and flourishes, its unnatural slope, uncomfortable stiffness, and bad proportion. It has been long since relegated to limbo, like the linen draper, who continues to flaunt the green bay tree, but not artificially.

With respect to handwriting, nobody more persistently coaxed us back to speed and decorum than Mr. Edward Johns and Mr. John Hogg, his publisher, given him a strong backing by the issue of books "in a concatenation according to the whole art and mystery of calligraphy" expounded by precept and example, the object being to afford the teaching profession a means of accomplishing the twofold object of saving infants the trouble and perplexity of learning two alphabets—print and script—and of securing a simple and sufficiently rapid handwriting adaptable to business needs. Many charming specimens of writing based on the principles expounded in the book would have completely the claim for beauty whatever may be thought about the speed. Teachers, however, have formed the present writer that the difference in speed between this handsomely formed writing and the ugly old script is quite negligible. Architectural drafts whose lettering should always be beautiful will find this book, with its analyses of principles and elements of penmanship and its reasoned recommendation of methods and materials, a sure guide to beautiful writing and lettering.

"Manuscript Writing and Lettering." A handbook for schools and colleges—showing the historical development and practical application to the handwriting of several manuscript styles derived from ancient Roman letters. Fully illustrated by an Educational Expert. London: John Hogg, Paternoster Row, E.C.4. Price 5s. net.

## COMING EVENTS.

### THURSDAY, NOVEMBER 14.

The Paint and Varnish Society. Difficulties with Regard to Ready-Mixed Paints. St. Bride Institute, Bride Lane, Ludgate Circus, E.C., at 7 p.m.

### FRIDAY, NOVEMBER 15.

Institution of Mechanical Engineers. General meeting at the Institution of Engineers, Great George Street, Westminster, at 6 p.m. Adjourned discussion of the following papers: "A Law Governing the Resistance to Penetration of Metals which are Capable of Plastic Deformation," by Professor C. A. Edwards; "The Value of the Indentation Method in the Determination of Hardness," by R. G. C. Batson; and "Ludwik Hardness Test," by Dr. W. Thorne Unwin, F.R.S.; also (if time permits), "Electric Welding," by T. Heaton.

### MONDAY, NOVEMBER 18.

Royal Institute of British Architects. General meeting. Mr. William H. F.R.I.B.A., on "A Housing Scheme for Chepstow," at 5 p.m.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

NOVEMBER 20, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1246.

## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in saving the efforts of the Government Paper Controller to eliminate waste. This they may do in one of two ways—*

*By placing a direct subscription for the Journal with the Publisher, or.*

*By placing with a newsagent an order for its regular delivery.*

### The Prime Minister on National Reorganisation.

ADPOLE and Taper are mummified relics; the tribe of professional politicians is obsolete. Our next Parliament must consist mainly of men who have sufficient practical knowledge and skill to run the country on business lines, but men possessing this knowledge will know better than to attempt to run the country as a trading concern. Mr. Lloyd George, in his speech at the Central Hall, Westminster, last Saturday, was rather vague in this matter; but one derives a general impression that he is in view a vast extension of administrative control over the Government. He spoke only too truly when he said that industrially we were an ill-organised people—that every industry had been “told rudely by the State to mind its own business”; and that consequently many industries had been “crippled by an extremely unfair competition.” This means, of course, “peaceful penetration” by the Germans, who by every sort of underhand dodge to ruin our industries, and too often succeeded. By fair means or foul, they had got hold of several trades subsidiary to the building industry, which suffered indirectly to a considerable extent when business buildings and their appanages which might have been raised in this country were put up in Germany instead. For the building industry is most sensitive to the rise and fall of the industrial thermometer, and to the far-reaching consequences of these fluctuations. Hence, the whole building fraternity are keenly interested in getting this great business of reconstruction satisfactorily adjusted; for upon our art and craft the general condition of the commonwealth reacts, favourably or unfavourably, more immediately and more intensely than upon any other profession or trade.

### State Trading Foreshadowed.

What exactly does Mr. Lloyd George mean by the problems of transport, and electric power, being “put in hand” by the State? If he means that the railways and electricity are to be taken out of private hands and to come under the direct control of the State, he will find it hard to convince a sceptical electorate that the State, as they know it, is capable of conducting those great services—and presumably others, such as coal-mining and coal-gas production, possibly food production—with efficiency and economy: it may even be an extension of the National Health system, and of national trading generally.

### Confusing the Functions of Government.

There are very many who, like Mr. Frederic Harrison, whose opinion on the point we quoted a few years ago, are firmly convinced that no good can come of confusing the legislative and the administrative functions of Government. That missionary to

the heathen who mixed his spiritual functions by becoming the agent for a firm of whiskey distillers deteriorated rapidly and sadly as a missionary, and was no great success as a whiskey agent. Similarly, the Government that becomes a huge trading concern will decline on the legislative side, and, if one may judge from invariable experience, will not trade economically, but quite the reverse. If it is Mr. Lloyd George's idea to turn the Government into a huge commercial undertaking, and he will announce this policy explicitly, every trader in the country will oppose him on the principle that it is immoral to fry a man in his own fat—to tax the trader for the wherewithal to set up opposition shops.

### Controlling the Brickyards.

Already the process has begun. Publications, as we have noted on a previous occasion, are being issued in enormous numbers by the Government, which is also taking a keen interest in the brickmaking industry. “We had,” Dr. Addison is reported as saying to a Press representative, “to find out all about brickmaking, where the right kind of clay is to be found, how many men understand the trade, and what they are doing at present. We had to discover how many bricks can be made in a year, and how many will be required for the needs of which we are all so conscious. We had to consider the possibility that the bricks might be diverted from really urgent work to the services of those who could afford to pay heavily for luxuries. Already we have taken steps to secure that brickmakers shall be returned to their occupation without delay, and we are ready to deal with any attempts to use the bricks in a manner contrary to the urgent needs of the nation.” As a general election is imminent, Dr. Addison would have been more prudent to make the sentence last quoted less of a threat. The whole country, as he should know, is sick and tired of Government control, and will visit its displeasure on those who continue it a day longer than it can be shown to be useful. Control is one thing, advice and assistance another. To start again any industry which the Government stopped is but just. To maintain it with funds of information or money when its existence depends on temporary support is wise in the national interest. To keep it perpetually in bondage to the State, or constantly subject to inquisitorial visitation by carping officials, is more than the traders of this country will stand.

### Great Opportunities for the Newer Materials of Construction.

Six thousand million bricks are wanted for the Government housing scheme; and as apparently they are all to be made, and as the men to make them have yet to be demobilised, national housing is likely to suffer considerable delay unless the newer materials of construction are extensively used. These were vaguely referred to by Dr. Addison when he gave those staggering figures with respect to bricks; for he acknowledged that “in any estimate which may be made there are a good many variable factors, as, for example, the consideration of alternative methods of construction.” Clearly, therefore, the manufacturers of substitute building materials now have an unprecedented opportunity of effectually introducing them to notice, for they have become indispensable. For the first time they get a fair chance against the older materials, which were not always preferred on their merits, but mainly through habit and tradition. As



brickmaking is a comparatively slow process, a good deal dependent on the vagaries of the weather, while cement blocks, for instance, are independent of it, and can be turned out very rapidly, it is apparent that Dr. Addison's stupendous figures for bricks may be very considerably reduced.

#### Demobilisation of Builders.

That builders serving with the forces are to be released as soon as possible, and in advance of the general demobilisation, is an announcement that will be received with mixed feelings; privilege being always resented, even when it is for the good of the public. Already there have been murmurings about "preferential treatment," "invidious distinctions," and so forth; but these complaints are without any basis that is more substantial than envy. Of course the fairest way would be to draw lots for precedence. Also it would be the most foolish way. Demobilisation is a delicate matter, and should be managed with the utmost tact and discretion, if chaos is to be avoided. To draw an illustration from our own industry, it would never do to bring the slaters and tilers on the scene before the excavators had dug out the foundation trenches, nor, as Dr. Addison has remarked in an interview with a Press representative, would it be wise to release the bricklayers before the bricks were made. Government officials being rather prone to literalism, we hasten to express the hope that our gallant builders of all denominations will not be set free in specification order, but will be dismissed simultaneously; for building was stopped at all stages, and all trades are needed about equally for its resumption. A further hint may be offered to Government officials: architects are really builders. As this fact, all simple as it seems, was hardly realised during the war, there may still be certain quarters in which it will be received with surprise, if not with incredulity. Probably the Colwyn Committee will regard it as news requiring confirmation, or as a point upon which expert witnesses should be closely examined.

#### Responsibility for Bad Housing.

No sooner was the armistice signed than practical-minded persons with one consent began to let loose their pent-up ideas with respect to housing and memorials. On both subjects we bestow much space this week, because it is important that the public mind on such matters should be known by those who seek to give it material expression, or to interpret it in terms of art. On neither question would it be easy to discover any new truth. There are, however, in speeches and correspondence on housing some amusing examples of logic, or anti-logic. Here, for instance, is a neat specimen of close reasoning: "Is it not a fact that absolutely the whole of the houses built in the past, and now held to be so undesirable, though built by private enterprise, were built and accepted by the local authorities in the area concerned as regards (1) size of rooms, (2) width of streets and passages, (3) number of houses in a block or per acre of land, (4) arrangements regarding sanitary matters, baths, and the rest, (5) number of persons living in any particular property, and every other condition. If this is so," the writer of a letter to the "Manchester Guardian" contends, "then the blame for the class of property now complained of is palpably not to be put on the builder, but surely upon the local authorities which accepted it." This is rather a rich specimen of remorseless logic, and so is the conclusion: "Yet Mr. X. proposes that the same authorities shall actually build the future houses, and that the private builder shall be eliminated." This is a very heartless application of the doctrine that the receiver is worse than the thief, and we like neither the gentleman's premises nor his deductions. Such an attempt to shift all the blame from the active

to the passive sinner, from the tempter to the tempted, is surely very mean. It cannot for a moment be admitted that the builder or the builder-owner is innocent because the local authority condones his crime. No local authority ever insisted the observance of its minimum conditions as if they were also the maximum requirements; and it may not be said that the mind of the local authority is the mind of the public that elects it. The elector cannot be allowed to shuffle out of its responsibility in this mean way by making a scapegoat of the authority.

#### Leeds Temple of Fame.

Concerning memorials, the scheme that stands from the rest like "a peak in Darien" is that for "Temple of Fame" at Leeds. It is to comprise an art gallery, a free museum, and a local war museum. As the site was worth fifty thousand pounds on a pre-war estimate, a building to match it must not be on a monumental scale. It is an enterprise in which Yorkshiremen are not likely to fail for lack either of cash or of courage, and we may look forward to a memorial of exemplary dignity. Already Leeds is rich in noble buildings—its university and its vicarage fine town hall linger in the memory not the less vividly for being seen through the perpetual haze that is perhaps inseparable from a huge central manufacturing industry—and a "Temple of Fame" should be no unworthy addition to them. True, its name rather smacks of a fibrous-plastic pavilion at Earl's Court or Olympia, but that is a comparatively recent accident. In spite of vulgarity of the word "temple," the fine aroma of classicism in its most stately and serene piety clings to it eternally, and may well frighten the modern architect into tame copying of some unsurpassable monument in Rome or Athens. But surely we have a Cockerell, an Elmes, or even a George Thomson, someone who can embody the Greek spirit in the Leeds Temple of Fame.

#### Exit the Mart.

Amidst empires crumbling and kings and kingdoms abdicating, it is still possible to feel a pang of regret for the threatened extinction of the Mart, which is to the housebroker what the Royal Exchange is to the stockbroker. Here many an ancestral estate, whole or in parcels, changed hands, many a noble dwelling (it may be supposed) ignoble dwelling. It was hereabouts that the famous George Robins, a mellifluous of auctioneers, beguiled many a bidder into offering twice or thrice its value for some piece of overpraised property. It is said that half the landed property in England had been knocked down with an ivory hammer, to such advantage that his annual income is said to have reached twelve thousand pounds a year. He was once offered £2,000 and all his expenses to go over to New York to dispose of a valuable property. This was a tremendous tribute to his eloquence, for the Americans have never without a specially successful native brand of auctioneer. It appears that the Mart has been sold for £120,000 to the Bank of England. It is a hope that the Bank is expanding; but the Mart also is a venerated institution, and its loss of function rather shocks us by the suddenness of the stroke. More than there will be (but only momentarily, we trust) a temporary paralysis of the traffic in real estate, and that at a moment when the buying and selling of houses and lands had reached a high pitch of intensity; for it seems that there is great difficulty in getting suitable premises for such transactions. Ultimately, no doubt, "commanding and palatial premises," as an auctioneer would say, will be specially built. They should be designed and planned in prospect of the much greater freedom with which land and house property will in the near future be bought and sold.



## THE NATURE OF A PUBLIC UTILITY SOCIETY.

BY EWART G. CULPIN.

*An article on "The Fate of Shaftesbury," published in our issue for October 30, Mr. C. H. B. Quennell suggested that the inhabitants of that much-traded town might now acquire it as their own freehold property by forming themselves into a Public Utility Society. The question has been asked: "What is a Public Utility Society?" Mr. Ewart G. Culpin, the eminent housing authority, supplies an answer in the following article.*

R. QUENNEL has done well to draw public attention to the condition of affairs prevailing at Shaftesbury and to point the moral which lies behind it.

Although it may seem a new proposal in this country for the inhabitants of a town to own as a community the freehold of their town, it is really by no means novel. There are hundreds of towns—in Dorsetshire particularly—which for generations have owned their own freehold, and which since the 17th century have not collected anything in the way of rates and taxes because the whole of the municipal charges have been met by the income from the town lands. Not only are there no rates and taxes, but in many cases other facilities are also provided, and I remember one small town where the community possess the whole of the land in the vicinity, the greater part of it being forest. In consequence of the profits arising from this town-ownership of the land they have nothing to pay for any State or municipal rates or taxes. Education is free, and the children are provided, without charge, with all books and material for school work. Electric lighting and gas have been installed without costing the inhabitants a penny, and they are entitled to a free supply of water, as they are to free water, while for fuel they are able to supply themselves free from the town forest. It is this because in making any suggestions as to the future of Shaftesbury the question of finance is, of course, one of the principal factors. It is not to be the chief consideration—which ought to be the health and happiness of the population there—under existing conditions it must first be shown whether or that policy pays before anything can be done to establish it. What I want to urge is that Shaftesbury should itself become a garden city.

There is a very great deal of loose talking and a good deal of argument about what a garden city is and what the garden city principle is. The garden city principle is a definite principle of town growth and town building. It is, indeed, the only principle of town growth and town building which exists to-day. Towns are growing and towns are growing without principle, without method, without consideration, and the Town Planning Act is endeavouring to replace this haphazard method of town development by some definite rules. But town planning itself does not supply us with a principle of growth. It ought to be a reason for everything that is done, it should be a logical and sequential reason. If we wish things to be the real logical extremity, the only way of housing our population in the future is to decentralise our old centres of population and rebuild new towns in country districts after first of all planning the whole country for transport purposes. At the present time this proposal will have no chance of success, however much it might be proved that it were the right thing to do, so that the next best thing is to see that the extensions of our towns and the creation of new towns should be on the best possible

possess a distinctively rural and agricultural character. It provides on its urban area for the solution of urban problems, and on its agricultural belt it could deal with many of the present rural difficulties. Many of us have been looking for a solution of this great agricultural and rural problem not so much to the building of new towns, but to the development of small old towns. One great advantage which this would possess would be that in the old town there is the invaluable nucleus of local tradition and local spirit, without which no new place can have a proper foundation. It is probable that there would have to be a good deal of reconstruction.

I am not sufficiently conversant with the conditions at Shaftesbury to say just how much would be required, but there are the remnants of the past and the embodiment of tradition which would form a natural centre. There is the basis of municipal government, provision for worship, education, social intercourse, and recreation. Although it may be true that all of these would not be in an ideal condition, yet with the goodwill of everybody concerned an admirable scheme of development could be worked out. And it must be done on principle, as I said before. With the rapid decentralisation of industry likely to be accentuated by after-war conditions, small towns may find themselves invaded by unwelcome industries unless they take steps to look after themselves, and in the application of the garden city principle it is possible at once to secure that new and revived industries are carried on in the most economical method, both as regards diminished cost and increased quantity and quality of output; that agriculture is made sufficiently inviting and remunerative to prove attractive to men of ambition, and that the workers of all classes are provided with homes which shall secure physical and moral fitness amid surroundings which shall minister to the development of the nobler things of life.

I am afraid that so far I have not touched upon the question it was suggested that I should deal with, but I submit that it is necessary first of all to prove what you can do with your town when you have got it, and that there must be some rational basis of development before anything else is done.

It has been suggested that a Public Utility Society be formed for the purpose of acquiring the property from those who have acquired it as the trustees of the town. I think, with Mr. Quennell, that it is much to be regretted that the Government would not permit the Corporation to acquire the property for the town, and I hope that the last word has not been heard on that side of the question. It might be worth while considering whether it is not possible to take advantage of Section 60 of the Act of 1890, giving to a local authority power to purchase, for the purpose of a town-planning scheme, any land contained in the scheme.

It is, of course, possible to form a Public Utility Society to acquire, own, manage, and develop the town. A Public Utility Society has very little statutory definition. The term occurs only once in legislation, where, in the Housing, Town Planning, etc., Act it is stated that for the purposes of the section "a Public Utility Society means a society registered under the Industrial and Provident Societies Act . . . the rules whereof prohibit the

will not be possible everywhere to set up new towns and new garden cities. A garden city does not mean merely an addition to an old town; it means a new town set out anew on a tract of land large enough to accommodate a population of such a size as to allow of efficient municipal organisation and full social activities, surrounded by a zone of open land large enough to



payment of any interest or dividend at a rate exceeding £5 per centum per annum." Under those conditions societies were entitled to obtain from the Public Works Loan Commissioners advances of two-thirds of the value of cottage property which they built. At the present time the whole question of Public Utility Societies is in the melting-pot. It does, however, seem probable that the Government will encourage their use in the great house-building enterprise the nation is now to embark upon and that they will be given extended facilities. A greater proportion of the cost will be advanced for a longer period of years, and probably to meet the rise in the price of money the rate of interest will be increased. It is hoped that provision will also be made for societies to take over existing property as well as to build. It must, however, be remembered that the only property upon which the Government advances loans to Societies of Public Utility is what is known as "housing for the working classes." Other property may be taken as collateral security, but no money is advanced upon it. This means, therefore, that if a Public Utility Society were formed for the purchase of Shaftesbury, it might be able to obtain certain money for any suitable working-class property included in the town, and it could certainly get money to build new cottages, but the bulk of the capital would have to be found privately.

The actual formation of the society is simple. Your rules are framed upon a certain number of statutory requirements of the Registrar of Friendly Societies, with such additions as are necessitated by the circumstances. These must be signed by seven people in order to obtain registration. The expenses are very small, and there is no stamp duty, as in the case of the Companies Acts, and there is no limit in the amount of capital. The ideal society is one which obtains money from three sources: (1) Government loan; (2) loan stocks investments; (3) share capital. The intention is that every householder shall also be a shareholder, participating pro rata in any profits that are made. The amount of the holding may be as little as a £1 share, paid up by instalments, and it is limited to £200, a provision under the old Friendly Societies Acts, framed to prevent control getting into a few hands. Loan stock capital is practically debenture stock, put in by investors or well-wishers at a fixed rate of interest. In the existing societies this loan stock is not withdrawable except in the event of non-payment of interest for two successive years. With the growth of the movement, however, it is more than likely that there will be more fluidity of capital among these societies, and a housing bank cannot be very far away.

The question, therefore, for Shaftesbury to consider is what possibility there is of raising jointly the sum of money required to secure the assets of the town. The proposition is big enough to excite one's imagination, for, as Mr. Quennell says, a town is not bought and sold every day. It should be possible to secure influential people who will help along the movement, and those of us who have experience of Public Utility Societies will, I am sure, be willing to give our help and advice.

It would seem that the first thing to do is to get a gathering of those who are chiefly interested to agree upon a programme, which ought to be submitted to a town's meeting, and resolutions proposed as to the course suggested. Steps should then be taken to see what amount of money can be raised, and it is quite likely that the local authority may, if it will, be able to come in in this way later on. It has been suggested that the Government will give power to local authorities to invest in Public Utility Societies, and although this may be hedged around with so many conditions as to make it unworkable in the present instance, yet there is hope that something may be possible. At any rate, it is worth trying, and I hope that sufficient

interest may be found locally to encourage further investigation into the possibilities of a scheme which I venture to suggest has such enormous possibilities, good, not only for the present, but for the future population of Shaftesbury.

## CORRESPONDENCE.

*Northern Polytechnic Institute, Holloway, N.*  
To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—With reference to a note in the editor's columns of last week's Journal, may I be permitted to call your attention to the fact that we have at the Institute a Building Day Trades School, conducted upon practically similar lines to the one at the Brixton School of Building. It was established some six years ago under the ægis of the London County Council Scholarship Scheme, and the instruction covers a three years' course. While the boys' general education is carried forward by such subjects as English, mathematics, and physical culture, their vocational work is represented by building construction, building science, and practical work in thoroughly well-equipped workshops devoted to painting and decorating, carpentry and joinery, and plumbing.

The school numbers some seventy boys divided into three years, and although many of the senior boys are now serving with the colours, they have obtained excellent berths with well-known building firms, who have constantly expressed their satisfaction with the training they have received, and declared their willingness to receive others. A flourishing Cadet Corps has recently been formed, and numbers more than half the school.

In addition to the Building Trade School, and in conjunction with the London County Council and Pianoforte Manufacturers' Association, a Music Trade School has been established, combining technical instruction at the school with practical work in the factories.

I shall be glad if you can find space in your next issue for these particulars, since it seems to me to be very important that architects and builders should be conversant with all the educational facilities that are available for the future training of craftsmen.

WALTER R. JAGGARD, F.R.I.B.A.  
Acting Head of the Building Department, Northern Polytechnic Institute, Holloway, N., November 1918.

## THE PLATES.

*New Orthopædic Centre, Edinburgh.*

THIS interesting building, lately erected from designs of Mr. Robert F. Sherar, is described in the article which appears on page 238. It will be studied, we think, with more than ordinary interest because it shows the very latest practice in a form of hospital which has been much improved and developed during the war. Electrical medical treatment is undoubtedly one of the great curative successes of the war, and it holds immense possibilities for the future.

*Christchurch Priory, Hants.*

The illustration of the tower of Christchurch Priory is from a water-colour sketch by Mr. Edwin T. H. F.R.I.B.A. The building was established as an Augustinian priory in the twelfth century, and the fine internal Norman work of the nave and transept is familiar to all. The rood screen is of the fourteenth century. The perpendicular tower is of excellent proportions.



CURRENT ARCHITECTURE (SERIES VI.), III.—ORTHOPÆDIC CENTRE, EDINBURGH: GENERAL VIEW.  
ROBERT F. SHERAR, ARCHITECT.







CURRENT ARCHITECTURE (SERIES VI.), IV.—ORTHOPÆDIC CENTRE, EDINBURGH: ELECTRIC TREATMENT.  
ROBERT F. SHERAR, ARCHITECT.



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# ORTHOPAEDIC CENTRE EDINBURGH.

JOINT (DISABLEMENT) COMMITTEE  
South East District of Scotland.

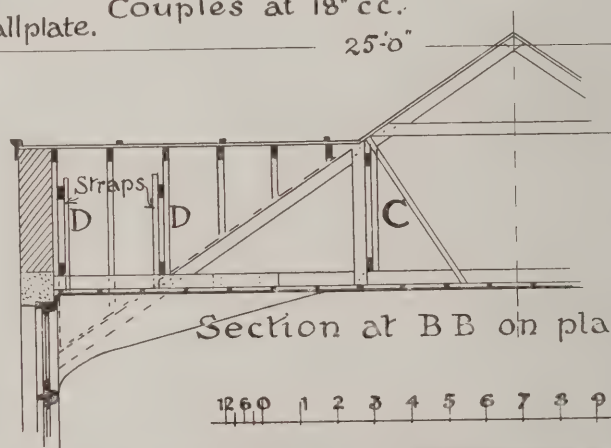


Part Back Elev<sup>n</sup>  
showing gable &  
high window  
at B

Gables at B B on plan

two 4" x 7/8"  
two 4" x 7/8"  
two 6" x 7/8"  
4" x 2", 16'-0" long.  
Couples at 18" cc.  
9" x 3" wallplate.  
25'-0"

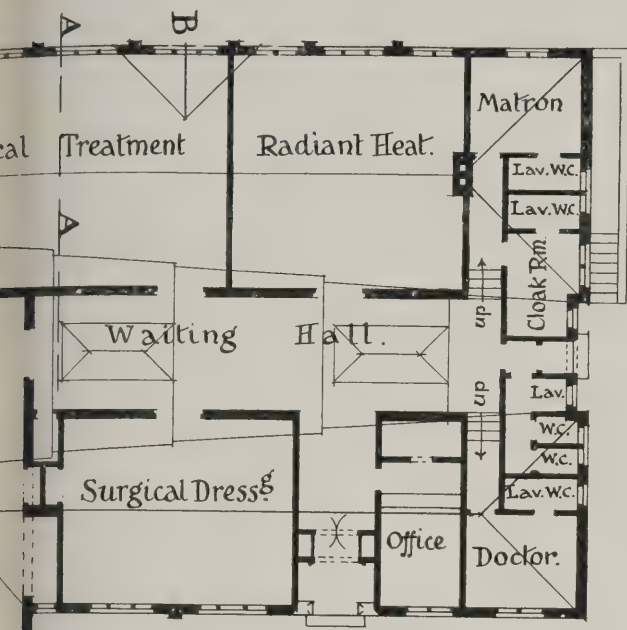
4" x 2"  
two 4" x 1 1/4"  
straps  
1" x 1 1/4"



Section at B B on plan.

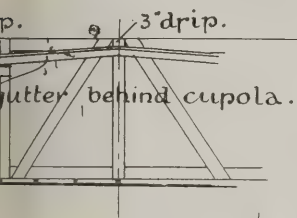
4" x 2" joists at 18" c.c.

SECTION at A A

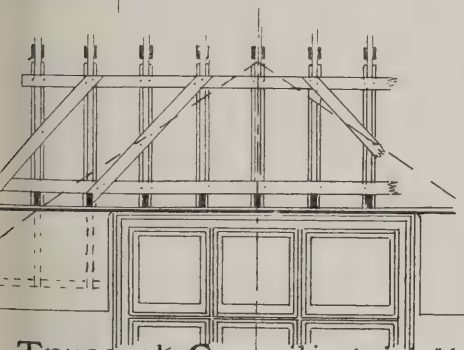


PLAN.

10 5 0 10 20 30 40 Feet.

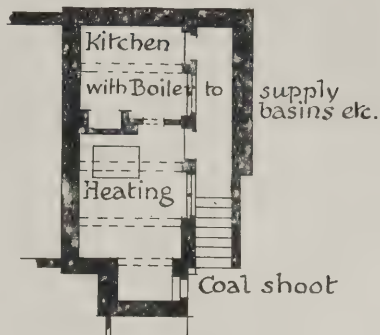


PLAN of ROOF shown by thin lines on plan.

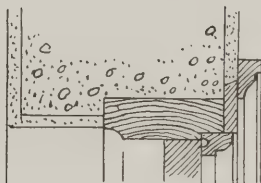


Truss at C. ceiling joists are also hung up with straps at D D.

Robt. F. Sherar.  
ARCHITECT  
6 ANN ST.  
EDINBURGH.

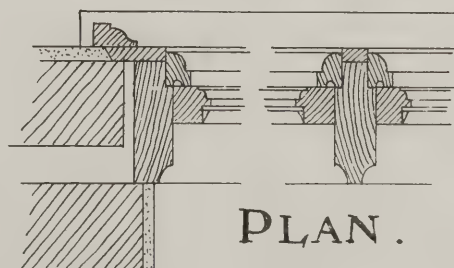


Sunk Floor  
Reinf<sup>d</sup> Concrete floor over.



SECTION

WINDOWS.



PLAN.

12 9 6 3 0 1 FT.



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ARCHITECTURAL DRAWINGS AND SKETCHES. XXIX.—CHRISTCHURCH, HANTS.

(From a Water-colour Drawing by Edwin T. Hall, F.R.I.B.A.)



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## SOME IMPORTANT WAR MEMORIAL SCHEMES.

NOW that the war is over, war memorials have become the subject of widespread discussion.

Already many important schemes, both for London and the provinces, are under consideration, and some have been definitely adopted. Among the latter, so far as the metropolis is concerned, are to be included the memorial to Lord Kitchener, towards the cost of which some hundreds of thousands of pounds have been already subscribed, and the permanent War Shrine in Hyde Park, for which, we understand, Sir E. L. Lutyens is now preparing designs. Major Pawley's ambitious and much-discussed scheme for the improvement of Westminster is too fresh in the memory to need more than passing reference. Every day sees a considerable increase in the number of projected memorials. Below we give particulars of a few of the more important schemes that have come up for consideration during the past few days.

*The Royal Regiment of Artillery.*

It is believed that all ranks of the Royal Regiment of Artillery will wish that the comradeship and sacrifices of the regiment in the Great War should be worthily and lastingly commemorated. The following scheme, of which the King, Colonel-in-Chief, has approved, has therefore been proposed:—

(1) To establish a permanent fund, to be administered by a committee elected from all branches, for the benefit of all ranks of the Royal Artillery and of their families and dependents; for the assistance of those who have suffered through the war, and for the promotion of the welfare of the regiment by helping financially and educationally the children of all ranks.

(2) To establish a Royal Artillery centre in London in a suitable building, which should include the existing R.A. Institution and Library, and provide accommodation for a museum of trophies of this and former wars, and an office for the administration of all regimental funds.

To carry out these proposals at least £500,000 will be required. A central committee has been appointed at home, with branches in the various theatres of war, India, and the Colonies.

*Harrow School.*

The Archbishop of Canterbury has presided at a meeting to consider the first report of the Executive Committee appointed to carry out a suitable memorial for Harrovians fallen in the war. The Committee, in their report, stated that a sum of £9,737 had already been subscribed towards the memorial, £100,000 in view, and in addition the Governors had placed at their disposal a site valued at £2,500, and scholarships of the approximate value of £14,000 had also been founded in connection with the appeal. The committee were of opinion that the Memorial could comprise, in the first instance, a cross, and, should the funds suffice, a Memorial Hall, which will contain a record of the names and achievements of all those who had fallen, and a gallery for portraits of distinguished Harrovians. They recommended that they be authorised to acquire from the Governors (on terms to be arranged) the whole site of "Cruikshanks" house; to purchase from the trustees of the late Dr. Butler Dame Armstrong's house, at a price of £1,400; to purchase from Dr. Butler's trustees the two shops in the occupation of Stevens and Hawkins, £2,000; and to purchase Major Winkley's house at a price of £800.

The committee state that the acquisition of Major Winkley's house and the two shops, with a view to their demolition, would render possible a very great improvement to Harrow, and if the space were

cleared, with the land occupied by Custos's house, it would provide an excellent site for the Memorial. An approach from the front by a handsome flight of steps could then be made to the Old School, the beauties of which would be more fully appreciated than is now possible. Should the committee acquire these three properties they would propose, if they are not required for the purpose of the Memorial, to ask the Governors to take them over at the price paid for them. The committee also suggest that one-fifth of the total of the money subscribed, with a minimum of £10,000, be devoted to educational grants for sons or near relatives of Old Harrovians killed in or incapacitated by the war.

*Temple of Fame as a Leeds Memorial.*

At Leeds the proposal is to erect a Temple of Fame, which will comprise an Art Gallery, Free Library, and Local and War Museum. The site suggested is the vacant plot of land at the corner of Cookridge Street and Guildford Street. It seems that about six years ago the Philosophical and Literary Society offered to sell their premises in Park Row and hand over the proceeds to the Corporation, together with the whole of the contents of the Museum, conditional upon their finding a new home for the Museum and the Society. At that time the Corporation were not in a position to accept the offer. They feel now that the occasion has arisen when they can, and that here is a wonderfully fine nucleus for the Temple of Fame contemplated. In his speech at the Council meeting Alderman Wilson said the museum site alone was worth £50,000. This, it may be said, is a sum which the Society was offered for it six years ago. At this day it may be worth considerably more. The site in Cookridge Street is said to be worth £100,000, so that the scheme starts with £150,000 to the good, exclusive of the valuable collection of exhibits now housed in the present museum. It is anticipated that the whole scheme will cost at least a quarter of a million, so that another £100,000 has to be found.

*A Temple of Hygiene.*

A number of influential medical men are interesting themselves in a proposal to build a Temple of Hygiene in the centre of London, so as to afford better facilities to the Institute of Hygiene to prosecute its useful work and be a lasting and practical memorial to our great victory and peace.

*A New School for Blundell's.*

The General Committee of the Blundell's School War Memorial Fund, at a recent meeting at which the Headmaster presided, decided to make an appeal for £20,000, the objects in view being the erection of a memorial cross in the school grounds and of a new Big School. An executive committee was appointed with F. Herring and J. F. Pugsley as hon. secretaries, and it was stated that £2,000 has already been promised. The School Roll of Service contains close on 1,000 names, and 175 Old Blundellians have already fallen.

*Watson's College, Edinburgh.*

At a meeting of the Executive Committee of the Watsonian War Memorial Fund it was reported that over £6,000 had already been contributed by Watsonians in this country, and that substantial support had been promised from branches of the Watsonian Club in the Dominions and abroad. It is hoped that the £10,000 originally aimed at will be materially exceeded so as to make provision for additional claims likely to be made upon the Fund on account of the increased number of Watsonians serving, or who have served—now over 2,800 in all.



## NEW ORTHOPÆDIC CENTRE, EDINBURGH.

The new Orthopædic Hospital at Tyne-castle, Edinburgh, shown by the illustrations in this issue (see also Supplementary Plates), has been erected from the designs of Mr. Robert F. Sherar. It is built of 11 in. hollow brickwork, harled (or rough cast) on the outside, and plastered on the inside with a cement plaster dado 4 ft. 6 in. high, the lintels being of reinforced concrete. The plan is very simple, consisting of a central waiting hall 50 ft. by 12 ft., lighted from the roof by two large cupolas, around which are grouped the four wards—one for surgical dressing 25 ft. by 20 ft., one for massage treatment 45 ft. by 25 ft., one for electric treatment 40 ft. by 25 ft., and one for radiant heat treatment 25 ft. by 25 ft.

At the entrance vestibule is an office with counter, where the patients register their attendances and treatment, and at one end of the waiting-hall is a sort of separate block with side entrance lobby off which are a lavatory and two w.c.'s for patients, and at either side the medical superintendent's room, matron's room, and cloak room for the nurses, all with suitable lavatory accommodation. Underneath part of this building are the heating chambers, one with Robinhood boiler for hot water heating and one with a kitchen range and boiler for hot water to basins, etc.

The wards are fitted with armbaths, footbaths, and wash-hand basins.

The roof was designed to be constructed of small scantlings, and forms rather a nice ceiling, as may be seen from the photographs and drawing.

For ventilation purposes two of the windows are increased in height right to the highest part of the ceiling, which entailed a special construction to carry the flat ceiling. A detail of this is shown.

The roof is covered with a good quality of bituminous felt overlapped in vertical joints and secured with wood fillets on the overlaps.

The flat roof over the waiting hall has a rise of 4 in. in 10 ft., with 3 in. drips in front of cupolas and 9 in. drips at back of same, which allows of a good gutter



WAITING HALL.

having a 3 in. drip at top and bottom and a 3 in. run being formed at back of cupolas. Advantage was taken of the great rise in this flat roof to construct it of framed girders or trusses of small scantlings ( $3\frac{1}{4}$  in. by  $1\frac{1}{4}$  in.), with similar trusses supported on these at each side of cupola. This makes a strong stiff framing very easily constructed.

The only architectural effect attempted is in thickening the walls at the entrance and the arched window in the front gable, to give an appearance of solidity to the whole building.

The cost was as follows:

Building .....	£4,000
Electric installation .....	700
Furnishing .....	1,300
	£6,000

The medical superintendent, Dr. J. Stewart Ross, M.B., F.R.C.S.E., has

kindly supplied the following note as to the work done at the hospital: This centre was opened for treatment on September 1st and within a week the patients taken on the books numbered 153. By the end of September the number on the books was 233, and this was increased to 344 by the end of October. A staff of six masseurs was provided, but this has had to be supplemented from time to time, the present staff consisting of twelve masseuses and two masseurs, both of them discharged soldiers blinded by wounds received during the war. Throughout the day there is a steady flow of patients coming at appointed hours, some 190 being dealt with daily. The work is ever increasing and staff and electrical equipment require additions from time to time, but there is every indication that the building itself is well adapted to its purpose, and will prove adequate to all the calls made upon its accommodation.

The following notes on the electrical medical equipment, electric lighting, etc. are supplied by Mr. A. G. Ramsey, B.Sc. Eng., A.M.I.E.E., Scottish District Engineer, H.M. Office of Works, Edinburgh, under whose direction the work was carried out.

The electro-medical equipment is composed of six galvanic switchboards mounted on the walls, five combined galvanic and faradic trolleys, a universal machine (used for galvanic, sinusoidal faradism, rhythmic currents, ledac currents, etc.), a condenser testing outfit and special auxiliary apparatus as Bristow coils, message vibrators, etc. A special feature of the equipment is the mounting of the electro-medical apparatus on trolleys which can be easily moved to any room and be connected to the electrical supply mains by means of a plug and socket; of these trolleys can be seen in the photograph of the electrical treatment room.

The electric lighting of the centre consists in the principal rooms, of half-volt lamp pendants with Holophane glassware which gives perfect diffusion of light.

All the power for the electro-medical apparatus is taken from the Edinburgh Corporation mains, and the power terminates in plugs and sockets at a height of 4 ft. above the floor level, distributed about the various rooms. The



NEW ORTHOPÆDIC CENTRE, TYNECASTLE, EDINBURGH: MASSAGE WARD.

ROBERT F. SHERAR, ARCHITECT.



s are of special design, making it possible to obtain a wrong connection a "plugging in" any of the apparatus. Provision has also been made for a three-phase rotary converter and dynamometer apparatus, which have not yet been called.

complete sterilising plant, consisting of a high-pressure bandage steriliser, a steriliser, and an instrument steriliser is installed in the surgical dressing-room.

## BUILDING PERMITS: PLAN TO ALLOCATE MATERIAL.

Important recommendations for the control of building and the improvement of supply of materials are made in the report of the Committee appointed by the Minister of Reconstruction a year ago to consider the position of the building industry after the war. Mr. James Carmichael is the Chairman of the Committee, and the other members, all of whom sign the report, are Sir A. Shirley, M.P., Mr. C. B. Broad, Sir George Bonham Carter, Mr. John Good, W. J. Jones, Mr. H. D. Searles-Wood, I.B.A., Mr. James Storrs, Mr. J. Ker Smith, F.S.I., and Sir J. Tudor Walters, M.P.

The Committee recommend that a Central Building Industry Committee be appointed at once, consisting of a chairman (who should be a member of the Standing Council on Priority), nominated by the Minister of Reconstruction, and twenty-five other members as follows:

One nominated by the Minister of Reconstruction; one by the County Councils Association; one by the Association of Municipal Corporations; one by the Urban District Councils Association; one by the Royal Institute of British Architects, the Institution of Civil Engineers, the Surveyors' Institution, and the Institute of Builders; one by the Society of Architects; four each by the Joint Industrial Council for the Building Industry and the National Federation of Building Trades Employers; two by the Federation of Manufacturers of Building Materials; one each by the Timber Trades Federation and the National Federation of Builders' Merchants' Associations; four by the National Federation of Building Trades Operatives; one representative of each of nine Regional Building Industry Committees in England and Wales to be appointed; and six representatives of Scottish building trades.

The following are the proposed terms of reference to the Central Building Industry Committee:

(i.) To determine, subject to the directions of the Standing Council, all matters connected with the reorganisation of the building trade consequent on the transition from war to peace conditions, and to advise the Standing Council upon all building questions in connection with national reconstruction.

(ii.) To take all necessary steps in connection with the Regional Committees to be constituted under clause (iv.) to foster and stimulate the production of the building resources of the country and of all descriptions of materials required for the industry.

(iii.) To allocate, under the direction of the Standing Council, building materials to the direct needs of Government Departments, railway companies, and such other public services as may be determined by the Standing Council.

(iv.) To constitute in each of the regional areas defined in the schedule a Committee consisting of representatives of local authorities, architects, civil engineers, surveyors, builders, building material, manufacturers and merchants, and labour.

(v.) To constitute a National Building Industry Committee for Scotland with such devolution of authority as will enable such Committee to determine all matters connected with the building industry which are of purely Scottish interest.

(vi.) To arrange for the distribution through the medium of the Regional Committees of the block allocations of materials made to or for the purposes of the building industry other than for the services enumerated in clause (iii.).

(vii.) To prepare and submit to the Standing Council for approval a scheme to be administered by the Regional Committees whereby building permits under specified conditions will be necessary before any building operations (other than those for the direct needs of Government Departments and the services specified in clause (iii.)) exceeding in value £500, or such other amount as may from time to time be determined by the Central Committee, can be undertaken, and providing for the grant by the Regional Committees of such permits.

(viii.) To consider as to the modification or withdrawal of, and to modify and withdraw, subject to the approval of the Standing Council, from time to time as circumstances permit, the restrictions placed upon the building industry under any scheme made under paragraph (vii.).

The regional areas proposed are those from time to time adopted by the National Federations of Building Trades Employers and Building Trades Operatives. These are at present as follows:

**Northern Counties.**—The Counties of Northumberland, Durham, and Middlesbrough District of Yorkshire.

**Yorkshire.**—Yorkshire (except Middlesbrough District) and Great Grimsby.

**North-Western.**—Cumberland, Westmorland, Lancashire, Cheshire, Flintshire, Denbighshire, Carnarvonshire, Anglesey, and northern parts of Derbyshire and Shropshire.

**Midland.**—Warwickshire, Derby, Nottingham, Stafford, Worcester, Leicester, Northampton, Rutland, Huntingdon, Lincolnshire (except Great Grimsby), and the southern portion of Shropshire.

**London.**—A twelve-mile radius from Charing Cross.

**Southern Counties.**—Kent, Surrey, Sussex, and Hants.

**South-Western Counties.**—Hereford, Gloucester, Wilts, Somerset, Dorset, Devon, and Cornwall.

**South Wales.**—Monmouth, Glamorgan, and South Wales generally.

**Eastern Counties.**—Norfolk, Suffolk, Essex, Cambridge, Hertford, Middlesex, Bedford, Buckingham, Oxford, and Berkshire.

### *Increase of Materials.*

The Committee have satisfied themselves that for some time sufficient material will not be available to meet the demand. The general lines on which they think that the increase in production of materials can best be advanced are summarised as follows:

Priority of release upon demobilisation for the professions and trades concerned in the building industry.

Release at the earliest possible date, well in advance of the commencement of

demobilisation, of pivotal men required for the production of materials.

Immediate provision of labour to get and prepare earth during the ensuing winter for the making of stock bricks, so as not to miss manufacture in 1919.

Immediate facilities for repairs, renewals, and restoration of works.

The release from Government occupation, at the earliest possible moment, of brickyards and premises now occupied for storage, etc., in order to allow of preparation and equipment for early resumption of brick-making operations.

The securing of adequate supplies of fuel and raw materials.

The scrapping of inefficient plant and the introduction of more modern appliances and increased use of machinery.

The use of local materials wherever possible, to secure economy in transport.

Institution of scientific and industrial research in the respective trades, and the practical application of the results.

Possibly, in certain circumstances, financial assistance by the State in extensions and equipment of works.

Closer co-operation between employers and employees through every means available, such as the operations of the Joint Industrial Committees.

The establishment of confidence in the various trades by the knowledge of a sufficiency of work for some time in advance. This could be secured by such means as the early placing of contracts wherever possible for post-war delivery of materials such as bricks, stone, etc.

Standardisation of fittings in all trades, especially for cottages, so that manufacture might proceed without delay.

Immediate steps to be taken by H.M. Government for importation of at least 100,000 standards a month of soft wood for all purposes during the first year after the war.

As an instance of the deficiency of material, the Committee say that the proposed erection of 300,000 houses in the first year after the war would require 6,000,000,000 bricks. The average annual production during the last three years before the war was only 2,805,000,000, and the estimated maximum output with the existing plant, provided sufficient labour is available, is less than 4,000,000,000. The Committee's inquiries of local authorities, railway companies, etc., show an expressed demand for nearly 3,000,000,000 bricks during the first year, and this figure falls very far short of the actual probable demand, because 50 per cent. of the local authorities made no returns.

## COMING EVENTS.

WEDNESDAY, NOVEMBER 20.

Society of Arts. Mr. Alan A. Campbell Swinton, F.R.S., Chairman of Council, on "Science and the Future" (Inaugural Address of the 165th Session), at 4.30 p.m.

Labour Co-partnership Association (Kingsway Hall, W.C.).—Mr. Alexander Horn on "Experiments in Profit-Sharing and Co-partnership" (Messrs. Clarke, Nicholls and Coombs). Chair to be taken by the Hon. Secretary, Mr. Aneurin Williams, M.P., at 4.30 p.m. Lectures by Lord Brassey ("Mining"), Dr. C. Carpenter, M.Inst. C.E. ("South Metropolitan Gas Company"), and Mr. E. O. Greening ("Godin's Iron Foundry at Guise"), will be given on November 26, December 4, and December 10 respectively.



## HOUSING REPORT OF THE TUDOR WALTERS COMMITTEE.

IN July, 1917, Mr. Hayes Fisher, when President of the Local Government Board, appointed a Committee to Consider Questions of Building Construction in Connection with the Provision of Dwellings for the Working Classes in England and Wales, the terms of reference being afterwards amended to include Scotland. The Committee originally consisted of the following gentlemen: Sir Tudor Walters, M.P.; Sir Charles Allom; Mr. Frank Baines, M.V.O.; Mr. James Boynton, M.P.; Mr. William Fairley, M.Inst.C.E.; Mr. G. Marlow Reed; Mr. Walker Smith, M.Inst.C.E.; Mr. James Squires; Mr. Raymond Unwin, F.R.I.B.A.; and Sir Aston Webb, K.C.V.O., C.B.; Mr. E. Leonard, of the Local Government Board, acting as Secretary. Mr. Frank Baines resigned from the Committee in September, 1918.

The Committee have made a very careful and comprehensive enquiry into the whole subject, and their Report, which runs into ninety-seven foolscap size pages of closely printed type, should be indispensable as a guide to those whose task it may be to deal with the great housing problem that is now directly upon us. The Report comprises twelve Parts and three Appendices, as follows:

I., Introduction; II., Preliminary Considerations; III., Statutes, Local Acts and Byelaws Regulating Estate Development and House Building; IV., Sites; V., Lay-out and Development; VI., Accommodation and Economy in its Provision; VII., Conversion of Existing Buildings for Working-Class Occupation; VIII., Communal Services; IX., Economy in Construction; X., Supply of Building Materials and Labour; XI., Organisation; XII., Summary of Conclusions and Recommendations.

Appendices: A., A List of Witnesses, etc.; B., Schedule of Materials required for Working-Class Dwellings; C., Outline Specification on which Schedule of Materials (B) is based.

For the purposes of the Report upwards of two hundred architects, engineers, builders, contractors, manufacturers, and other expert witnesses were examined and gave evidence. Below we print the Committee's statement of Preliminary Considerations, together with the Summary of Conclusions and Recommendations.

### *Preliminary Considerations.*

In preparing our Report upon methods of securing economy and despatch in the provision of dwellings for the working-classes, we have found it desirable to formulate for our guidance certain general considerations affecting the problem. These are here set out briefly in order that the Report may be read with an appreciation of the point of view which has influenced its preparation.

Hitherto the housing undertaken under the Housing Acts and supervised by the Local Government Boards has been mainly intended to provide for the poorer sections of the working classes, whose needs could not be met by private enterprise owing to their inability to pay such a rent as would provide adequate inducement to speculative or other private builders. The problem with which the Boards are now confronted, however, is a serious shortage of all kinds of houses for the working classes; for the building of houses during the war has ceased for the well-paid as much as the ill-paid sections. This fact must materially affect the types of houses

which it is most economical to build, and the standard of accommodation and equipment which should be provided.

The general standard of accommodation and equipment demanded in their dwellings by the working classes has been rising for some time; and there is every prospect that the influence of war conditions will considerably increase the force and extent of this demand for an improved standard.

The erection under the auspices of the Boards of so large a number of houses as is now contemplated must profoundly influence the general standard of housing in the country which it is the desire of the Boards to see raised.

There exist a considerable number of houses which now fall below the generally accepted minimum standard of accommodation, equipment, or amenity; and a still larger number exist which must soon be inadequate to meet the rising standard to which reference has been made.

The scarcity, therefore, is not of the smallest type of house, barely reaching the minimum desirable standard of pre-war days, but rather of good houses adequate in size, equipment and amenity, to afford satisfactory family dwellings.

In the face of an improving standard it is only wise economy to build dwellings which, so far as may be judged, will continue to be above the accepted minimum, at least for the whole period of the loan with the aid of which they are provided, say sixty years; to add to the already large supply of houses on the margin line might prove anything but economical in the long run.

In view of these considerations we felt that we would not be treating the matter usefully if we were content merely to take the usual pre-war types of houses and methods of lay-out, and consider what economies might be effected in them, but that we must first go into the question of the development of sites and the types of houses and equipment which it would be desirable to adopt, and then, taking these as our basis, see how such dwellings could be provided most economically.

We have found that some of the most important economies in the provision of dwellings depend on the laying-out and development of the sites, including roads, drains, etc., and the planning of the houses; moreover, questions of construction and of standardisation are so intimately connected with these matters that they cannot be adequately considered apart.

In these circumstances we propose to deal with these aspects of the problem as an introduction to and a basis for more detailed recommendations in reference to construction.

In considering various proposals which have been made to us in regard to the provision of dwellings, we have realised the importance of judging as to their economy, not only in reference to the actual cost, but in reference also to any sacrifice which might be involved in regard to the healthfulness, convenience, and comfort of the dwellings. Sometimes economies are attempted which involve loss of convenience or comfort; and, though some saving in first cost may be secured, a reduction of efficiency may result which would depreciate the value of the house to such an extent that the saving would not be justified.

We have further considered all problems in the light of conditions which may reasonably be expected to prevail imme-

diately after the war; and we have investigated certain methods of construction and the use of certain materials which might not have been economical in the pre-war period, because it seemed probable that they might nevertheless prove to be so, owing to the great scarcity of other materials which is likely to prevail after the war; and in the case of some methods of construction believed to be economical, we have considered it necessary to prove whether they would be desirable from the point of view of health and other considerations before recommending them for adoption.

Ultimate economy in the provision of dwellings will depend upon the relation between the average rental secured over a long period and the annual amount which has to be expended to meet interest on a sinking fund on the capital outlay or to defray maintenance and other charges; hence the probable future conditions must be studied as well as immediate results.

The total capital outlay in each case must include, beside the actual cost of building, the cost of land, fencing, a lay-out, a share of the costs of development, including roads, drainage, and perhaps the supply of water, light, and heating. Economy in all these matters must, therefore, materially affect results.

In deciding whether to deal separately in our Report with the conditions and requirements of England and Wales, Scotland, we have considered that, in spite of the marked differences which have to be taken into account in these and other different localities, nevertheless such a very large proportion of all the considerations affecting economy in the provision of dwellings would apply to the whole of the country, that it has seemed best to deal with the subject as a whole and to draw attention to any marked differences as they arise. It is clear also that the conditions as between urban, suburban, and rural dwellings must in like manner vary to a certain extent; these also have been referred to from time to time in preference to attempting a separate treatment.

In reference to Scotland, we have first considered the traditional methods of building, the accommodation which is usually provided and the prevailing climatic conditions. The reciprocal effect of tenement building and dear land is well understood, and it is also common knowledge that the number of rooms generally provided in Scotland is smaller than in England and Wales, whilst the sizes of individual rooms are usually larger.

In considering questions of accommodation and structure, therefore, even where attention is not particularly drawn to points in the Report, it should be generally borne in mind that to the Scotsman the size of the rooms suggested will be likely in some cases to seem small while the number of them may seem greater than necessary in all cases; whereas to the Englishman accustomed to the cramped dwellings of certain districts, the size suggested may seem larger than necessary, although there will be few who will consider that the number of the rooms could be reduced. In reference to structure, also, the suggestions in the Report must necessarily be considered in relation to the climatic conditions of each individual case, and while no doubt some of the proposed methods of construction will apply to those who live in the more northern latitudes and more exposed situations:



light and insufficient for their districts, and more sheltered parts of the country to involve unnecessary expense. With due allowance for these variations in condition in different countries and localities, and subject to special references in certain cases, we think the Report will be found generally applicable to the whole of Great Britain.

#### SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS.

##### *Statutes, Byelaws, Etc.*

Certain statutes, local Acts and bye-laws relating to streets and buildings need to be increased the cost of building houses, and tend to perpetuate undesirable conditions of houses and lay-out. Rigid bye-laws and regulations are undesirable for regulating the house-building industry, and greater freedom in employing new methods of construction and lay-out should be permitted. The lay-out of land in new areas and the width and construction of streets can best be controlled by town-planning schemes, but it is of urgent importance that the procedure under the Housing, Town Planning, etc., Act, 1909, should be simplified so that greater expedition thereunder may be secured.

During the emergency period power should be given to the Local Government to exempt any housing scheme of which the plans and specifications are approved by them from such statutes, bye-laws, or regulations as in the circumstances the Boards consider it would be inexpedient to enforce. The Boards should be empowered to make orders through housing commissioners.

##### *Sites.*

Sites should be selected only after careful consideration of:

- (i.) The probable future development of the town or district based on a forecast of growth and town-planning requirements.
- (ii.) Their accessibility to industrial, educational and recreational centres.
- (iii.) The sufficiency of transit facilities for building materials and for the occupants of the proposed houses.
- (iv.) The configuration of the ground and the economical development and the suitability of the subsoil to provide inexpensive foundations for roads and buildings.
- (v.) Rural houses should as far as practicable be built in villages or groups.

##### *Lay-out and Development.*

A careful survey of the site should be made so that full advantage may be taken of all opportunities offered; provision should be made for sites for any special buildings required for the convenience and social amenity of the occupants of the houses; sites for a suitable number of larger houses should be reserved when necessary to secure a varied community; the roads should be so planned and the spaces and buildings so disposed that the best features of interest are preserved and the beauty of arrangement and vista maintained.

A contour survey should be made of the sites of an undulating character in order that the most economical development may be secured.

As suggested in the circulars issued by the Local Government Boards, the number of houses should not exceed five to the acre in urban and eight to the acre in rural areas. If the lay-out plan

is carefully prepared to provide suitable building plots and frontage, no addition to the cost of development need generally be involved on account of such limitation. In regard to the provision of tenements in Scotland, the matter is fully dealt with in the report of the Royal Commission on Housing in Scotland, issued in 1917, and reference should be made to that report in connection with the question of densities for such types of dwellings.

8. Where roads have already been made which were laid out for a greater number of houses to the acre than that recommended in the foregoing paragraph, and where the number cannot be reduced without serious waste of existing road frontage, a rather higher number should be permitted, but the greater local density should be compensated for by the provision of suitable open spaces in the vicinity.

9. A distance of 70 ft. between facing rows of houses should be regarded as the minimum spacing. Main roads where special considerations are involved will require wider spacing.

10. With the distribution of population resulting from the density of building recommended above, carriageways and footways narrower in width than usually adopted in urban areas will be adequate and should be used for roads not required to carry through traffic.

11. Great care should be taken to secure economy and convenience in the lay-out plan:

- (i.) By providing direct routes of easy gradient for main thoroughfares.
- (ii.) By planning the minor roads mainly to afford the best building frontages and so as not to attract through traffic.
- (iii.) By distributing the different types of houses on roads which afford the best aspect for each type.
- (iv.) By avoiding unnecessary waste of frontage at road junctions.

12. Back roads should not be provided, but access from the front should be arranged to the back garden of each house; such access is best secured in intermediate houses of groups of four or six by means of a passage on the ground floor between each pair of houses.

13. Enclosed backyards should be avoided; the garden should be open to view from the house; any screen to secure privacy or roofed yard space should be so placed as not to obstruct this view or cause undue enclosure.

14. Where only sites on steep sloping land are available, houses should not be placed on the northern slopes; the roads generally should follow the contours and the houses should be of the long-fronted type, shallow in depth, placed on the high sides of the roads not facing into the hill.

##### *Footways and Carriageways.*

15. The widths of the carriageways and footways should be determined by the probable traffic they will be required to carry; a width of 8 ft. will serve as general footpath access for a group of houses, with occasional use for cart or ambulance; a 13-ft. carriageway will allow two vehicles to pass slowly and is suitable for short roads, drives round greens, and minor roads on steep hillsides having houses on one side only; a 16-ft. carriageway will allow two vehicles to pass quickly and is sufficient for minor residential roads of considerable length; with all these widths

turning spaces should be provided every 150 yards except where the junction of cross roads will serve the purpose.

16. Adequate distance between the houses should be secured otherwise than by the width of the road; where it appears possible for future development to require greater width of carriageway and footways, additional width should be reserved as grass verge or shrubbery; such strips may be temporarily included in the forecourts, the right being reserved to take them when required for road widening.

17. Roads which are likely to serve as thoroughfares should be adequate in width and substantially constructed to secure economy in cost of maintenance.

18. Minor roads should be constructed in a less costly manner than thoroughfares, economies being effected on the following lines:

- (i.) By reducing the width of carriageways and paved surfaces on footways.
- (ii.) By adopting a thickness and character of construction appropriate to the anticipated traffic.
- (iii.) By the use of suitable clinker from refuse destructors, when available either as rubble for foundations or in the form of a layer of concrete where expedient.
- (iv.) By adopting lighter or less costly or by omitting curbing and channelling.

19. As far as possible all drains, sewers, water and gas pipes, and electric-light mains, with house connections up to the boundary of the road, should be laid in before the surface of the carriageway and footways is completed in order to save reinstatement costs.

##### *Drainage.*

20. The lay-out should be considered in reference to the system of drainage adopted, and the lines of roads should be planned as far as possible to secure for sewers and drains suitable gradients with the minimum of excavation.

21. General requirements as to the depth of sewers, concreting around pipes, etc., the spacing of manholes and the adoption of particular types of manholes and materials for their construction, should only be enforced in so far as necessary for the character of the area.

22. The system of the common drain or sectional drainage should be generally adopted for housing schemes, both for sewage and surface-water, and statutory obstacles or local regulations impeding the adoption of this system should be removed by suitable legislation.

23. A simple system of house drainage should be adopted in conjunction with the common drain, the chief features of which would be:

- (i.) One connection to the sewer to serve a section not exceeding fourteen dwellings.
- (ii.) One intercepting trap and system of ventilation for each section.
- (iii.) Manholes at junctions of common drains; inspection chambers or rodding eyes in place of manholes to secure necessary means of cleaning the drains.
- (iv.) All connections from the dwelling to be brought into the soil drain (as near the building as practicable) to reduce the number of connections to the common drain.

##### *Fencing.*

24. Expenditure on forecourt or boundary fences should be reduced to a minimum; generally hedges should be planted in place of the more costly forms of fence.



ing and, pending the growth of the hedges, concrete boundary posts or light fences composed of wire or wire netting fixed to such posts should be adopted; in suitable circumstances fences between the forecourts may be dispensed with provided that the gardens are fenced between the blocks of houses.

*Accommodation and Economy in its Provision.*

25. There appears to be no economy in the construction of tenements or two-storey flatted houses as compared with self-contained cottages to justify their adoption on that ground, but in certain Scottish cities and in exceptional positions in other large towns custom and local conditions may render their adoption necessary to a limited extent. The self-contained two-storey cottage should generally be adopted as the type to be erected.

26. Wherever possible a parlour should be provided in addition to the living-room, scullery and bedrooms; in every scheme a large proportion of houses having parlours should be included; parlours should not be provided at the expense of the living-room or scullery.

27. As far as possible, in deciding upon the equipment to be provided in the houses, the tendency to transfer cooking, etc., from the living-room to the scullery should be given due weight.

28. The most serious scarcity in England and Wales is of houses having at least three bedrooms; generally houses with less than three bedrooms should not be erected as part of the proposed housing programme. As regards Scotland, we acknowledge the authority of the Report of the Royal Commission on Housing in Scotland, issued in 1917, and accept its finding that, owing to the difference of habits, conditions and standard of accommodation, a certain number of houses with less than three bedrooms may be required.

29. It is desirable to build a proportion of houses having more than three bedrooms and to take advantage of any suitable opportunity which the slope of the ground or the grouping of the houses may offer to do this economically.

30. The erection of suitable hostels for single workers should be considered as an alternative to their accommodation as lodgers in dwelling-houses.

31. Houses of various types should generally be included in a scheme; but the details of arrangement throughout each house should be adapted to one or other of the methods of arranging the work of the house described in Part VI. and to the corresponding types of house enumerated in paragraph No. 98 of the Report.

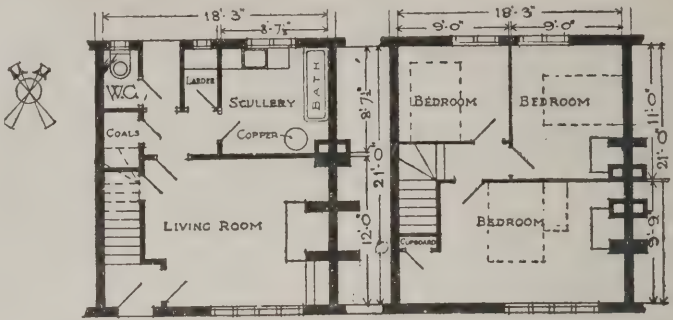
32. Low cost should not be sought by cutting down unduly the size of the rooms; the sizes set out in paragraph No. 102 of the Report should be regarded generally as the minimum sizes which it is desirable should be erected; larger sizes should not in ordinary circumstances be regarded as extravagant.

*Parlour.*

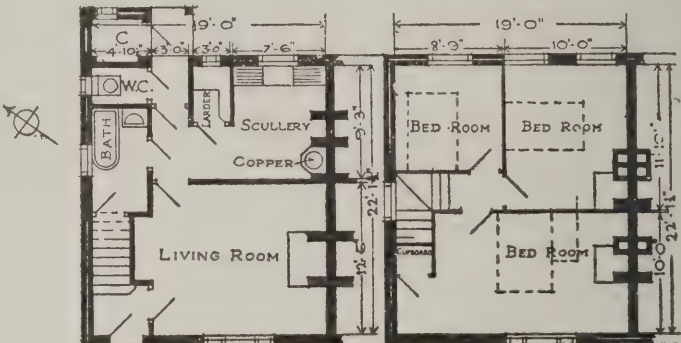
33. The parlour should have an area of not less than 120 square feet; it should have direct access from the entrance lobby; the door should not open across the window or fire; a western aspect is the most desirable.

*Living-Room.*

34. A south-east aspect should be given to this room; when this is not possible the most sunny aspect available should be given to it; it should have the most



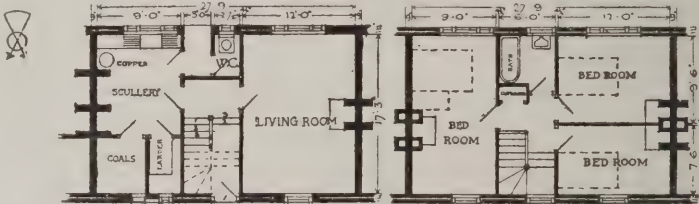
GROUND FLOOR PLAN FIRST FLOOR PLAN



GROUND FLOOR PLAN FIRST FLOOR PLAN

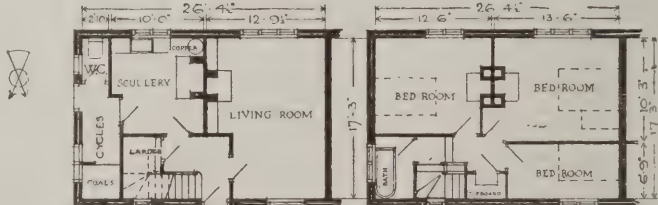
SCALE OF FEET

Types I. and II.



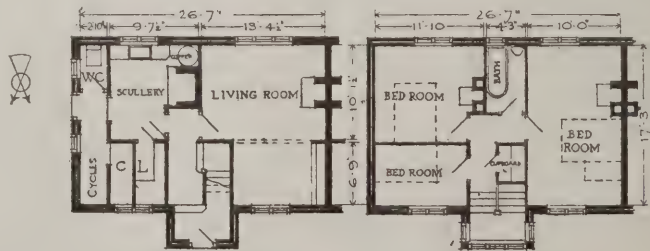
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SCALE OF FEET

Types III.

PLANS FROM THE TUDOR WALTERS COMMITTEE'S HOUSING REPORT.

ive outlook possible; where the or outlook would be improved y, a type of house shallow in depth h the living-room may have win- both sides should be adopted.

The room should have an area of ss than 180 square feet; the effective ould be judged by arrangement as s by area; a room of an oblong has more effective size than a square of the same area and is more econo- in regard to the construction of the floor.

The fireplace should be planned on the walls at right angles to the win- the doors should be at the opposite of the room, so placed and hung as involve the reservation for passage of the best lighted or most comfort- arts of the room; there should not be doors in the living-room than one to entrance lobby and one to the cul-

In Type I. house where the cooking ended to be done in the living-room, nge should be suitably placed for there should be a door directly into ulla; there should be space for a d table in addition to the one occu- in connection with cooking.

In Type II. house where the cooking is y done in the scullery on a gas stove l-fired range, and a combined cook- and sitting-room grate is fitted living-room, the door should gene- open directly into the scullery.

In Type III. house, where it is ed that all the cooking should be in the scullery, access to the scullery the living-room may be through the ce lobby.

The arrangements described for s I., II., III. are applicable to two- cottages with or without parlours, single-storey and flatted houses.

The arrangements described for s II. and III., whether with or with- parlours, should be largely adopted as es most generally desired.

In rural areas the cooking-range d generally be placed in the living-

Where no parlour is provided there d as far as possible be a suitable place e living-room for a table to be used riting, or for a piano.

#### Scullery.

The scullery should be planned as a tic workroom, and its arrangements d not be such as to encourage its use living-room.

Adequate space should be provided l the functions it is intended to fulfil or the necessary conveniences. This deration must fix the size rather than iminum of 80 square ft., which can rve in certain circumstances.

The scullery should include provi- for the following:

The sink with draining-board on the and side and ledge or table on the and side, together with plate racks, In Scotland, a wash-tub or second

The washing copper fitted with outlet and steam hood ventilating smoke flue if coal fired, into open air s fired.

A gas cooker where gas is avail- in Type II. houses, a simple grate or for drying clothes; and in Type III. s, a cooking-range for all purposes supplement a gas cooker.

In rural cottages where gas is not able, a simple grate for drying es, etc.

(v) In certain districts a bread-baking oven.

(vi.) Ample shelves and cupboard space for utensils according to distribution of functions in the three types and provision elsewhere made.

(vii) Standing space for the mangle or wringer and other washing utensils.

47. The scullery should have a window with sill about 3 ft. 6 in. from the floor, above or near the sink, and overlooking the garden.

48. A back lobby is desirable; it is an advantage if this can be large enough to accommodate tubs, buckets, and similar utensils, or even a cycle or mail-cart; space in the scullery may be saved thereby.

#### Wash-house.

49. Generally, the provision of a separate room for use as a wash-house only is not an economical apportionment of space; but the bath and washing equipment may suitably be combined in a small chamber off the back lobby or scullery, especially where it is intended to heat the bath water in the washing copper.

50. The placing of the washing copper in the open air is not desirable except in the milder regions and in sheltered positions, but some paved and, when possible, roofed space outside where washing, boot cleaning, etc., can be carried on in the open air, is a great advantage.

51. In rural areas the wash-house may sometimes be combined with the barn or outhouse and space be saved in the scul- lery.

#### Bath.

52. Every house should be provided with a bath in a separate apartment, except where a sufficient water-supply is not available; where the bath is not provided, space for its future installation should be arranged; the fitting of the bath in the scullery should be regarded as a makeshift and should only be adopted in default of a better arrangement when the scullery is not mainly used for cooking and can be closed without cutting off access to other parts of the house.

53. When the water is to be heated by the copper, the latter should be fitted with a tap and fixed at a suitable level to fill the bath.

54. Where there is no parlour, and consequently the whole of the floor space of the upper storey is required to provide three good bedrooms, the bathroom should be planned on the ground floor.

55. Where there is a parlour, or for other reason there is sufficient space without cramming the bedrooms, the bathroom should be placed on the first floor and the hot water supplied from a boiler at the back of the cooking-range.

56. The minimum width for the bath- room should be 4 ft. 3 in., but it is desirable the width should not be less than 5 ft.

#### W.C., etc.

57. The w.c. in the smaller houses is generally best planned on the ground floor accessible under cover from the back lobby or porch; in larger houses having a parlour it may be placed on the first floor adjoining the bathroom; it is undesirable to place it in the bathroom, and objectionable when the bathroom is entered from the scullery; where either entrance lobby or landing is sufficiently large and is well ventilated, the w.c. may be entered from one of them. In rural cottages where an earth-closet must be provided, it should be placed outside the house but entered under cover.

58. In arranging scullery sink, hot-water boiler, bath and w.c., economy in draining

and plumbing should be secured by group- ing such fittings as much as possible.

#### Larder.

59. The larder should be placed on the north side of the house, failing this, on the east; when not facing north, the window should be protected from the direct rays of the sun. It should be entered from the scullery or back lobby except when a better aspect may be secured by entering it from the front lobby. It should be kept away from chimney breast, w.c., drainage, gulleys, and ashbin. In urban districts it should have a floor area of from 12 to 16 square ft.; in rural districts the area should not be less than 18 ft., and in some localities 40 or 50 ft. is desirable.

#### Coal Store.

60. A coal store large enough to hold at least one ton of coal with some firewood, etc., should be provided, accessible where possible under cover, with the door opening from the back lobby in preference to the scullery; the minimum size should be 15 square ft. and with such a size coal- boards should be provided to the doorway.

#### Staircase, Landing, etc.

61. The stairs should be 3 ft. wide, and 6 ft. should be regarded as the minimum width for a staircase returning on itself; the steps should have about 7½ in. rise and 9 in. tread, exclusive of the nosing. A handrail should be provided. Winders should be avoided so far as possible; where winders have to be used, a wall handrail should be provided on the outer side of the turn.

62. The stairs should lead from the front entrance lobby where possible; the stairs and landing should be well lighted and ventilated by a window near the head of the stairs.

63. Cupboard space with raised floor, when the latter is necessary to give head room, should be provided over the stairs or on the landing when practicable.

#### Bedrooms

64. Of the three bedrooms, the first should have a minimum floor area of 150 square ft., the second 100 square ft., and the third 65 square ft.; larger sizes are desirable especially for the first and third rooms; two of the bedrooms should have fireplaces, and the third if not provided with fireplace should have suitable and efficient ventilation; the bedrooms should be provided with wardrobe-cupboards or presses.

#### Rural Cottages.

65. Rural cottages should be provided with greater larder, storage, and fuel accommodation than urban houses. Suitable outbuildings or barn and, in certain districts, a pig-sty should also be provided.

#### Economy in Planning and Design.

66. Back projections should generally be avoided.

67. Simple rectangular plans, including all accommodation within the main walls, should generally be adopted. Outbuildings (apart from the rural requirements already mentioned) should be avoided. In small houses where bedroom space is of great value, the coal store, etc., should always be included within the main walls to give extra area on the upper floor; it is usually more economical to give a little extra space in the building than to adopt complicated planning or construction to save a little in the cubic content.

68. Flues should be grouped into as few stacks as practicable.

69. The addition of half the cost of a few extra yards of road required to give



adequate frontages for good planning and to provide suitable aspects for the rooms should not be regarded in itself as a justification for restricted building frontages.

70. Good exterior design in harmony with the site and surroundings should be secured by the choice of suitable local materials, by adopting good proportion in the mass and in the openings, by careful grouping of the parts of each house, by suitable grouping, and by well-considered variations of design to suit the position, site, and materials.

71. Simple straightforward roof lines should be adopted and the multiplication of dormers, flats, gutters, and other complications of the roof structure should be avoided.

72. Where concrete construction is used and flat-roof treatment proves suitable, such treatment may be adopted for town sites, or throughout a definite area.

73. For each housing scheme a series of type plans should be adopted to provide the different arrangements of accommodation which are required to suit the local conditions; these should be taken as a general basis for the design of the individual groups of houses, but should be adapted to each site and each position in the group, advantage being taken of the end houses of groups, the corner houses of streets, or any other opportunities which permit improvements in the aspect of the rooms in the individual plans, or desirable variations in the design.

74. Furniture should be shown in place on the proposed type plans when they are considered for selection or approval.

75. In comparing the cost and accommodation of different types and plans of houses, floor areas will be a better guide than cubic content.

*(To be concluded.)*

## HOUSING ACTIVITIES: LATEST PHASE.

Following hard upon the signing of the armistice, there has been in many directions a great renewal of activity in the housing movement, of which the general trend is indicated in the following reports from various quarters. In the first place, however, we quote the full text of the important circular issued by the Local Government Board to the councils of Metropolitan Boroughs, to Town Councils, and to District Councils. It is as follows:

"Local Government Board, Whitehall, S.W.1. November 14, 1918.

### *"Housing of the Working Classes."*

"Sir,—I am directed by the President of the Local Government Board to refer to their Circular Letter of March 18 last and to state that the question of housing, apart from its vital importance in relation to public health, must now be regarded as of extreme urgency in view of the cessation of hostilities and the problems which will arise in connection with demobilisation and the setting free of labour and materials for civil purposes.

"It is therefore essential that immediate steps should be taken to submit all housing schemes to the Board at the earliest possible date, and that every endeavour should be made to push on with their preparation.

"If, as is no doubt the case in many instances, the local authority are suffering from shortage of staff owing to enlistment, they should at once forward a list of those officers whose prompt return is necessary for effectually expediting the schemes, with their full names, rank, regiment, and

official numbers, and the post which each holds under the Council. The President will then do his best to secure the early return of these men.

"The local authority are already aware, from the terms of the Circular Letter above referred to, of the nature and extent of the financial assistance offered by the Government, and the President desires to remind them of the statement made, with the authority of the Government, that the discretion vested in him is to be exercised generously.

"He desires to take this opportunity of stating that he will certainly be disposed to exercise that discretion liberally in the case of those local authorities who recognise the national gain which will accrue from an early submission of suitable schemes. The process of demobilisation may be expected to release a considerable amount of labour which can be utilised with advantage in putting the schemes promptly into execution.

"Your authority will, no doubt, have observed that suggestions have been made from various quarters that local authorities are not making sufficient progress with the submission of their schemes for housing after the war, and whilst the President is fully alive to the difficulties which local authorities have had to encounter in the past, he feels that, looking to the present position as regards the war, he must now press to know the precise intentions of each local authority in regard to this matter and how far he can count upon them to provide the houses which it will be necessary to erect at the conclusion of the war.

"So far as public utility societies, employers, landowners, or other forms of private enterprise may prove willing to provide some of these houses at an early date, the necessity for action by the local authority would be reduced, but it would be well to realise that these agencies may not be able to do much in the early stages of demobilisation and may not therefore be effective in meeting the demand which may arise for the immediate putting in hand of schemes.

"It is essential that the President should be in a position to advise the Government as to whether the local authorities can be relied upon to provide the necessary houses or whether other measures must be taken to ensure their provision.

"Sir Auckland Geddes would accordingly be obliged if a reply could be furnished to the following questions at the earliest possible date:

- (1) Are the local authority prepared to provide any necessary houses for the working classes for their district, so far as not otherwise provided at an early date?
- (2) Are they prepared to do so on the terms set out in the Board's Circular of March 18 last?
- (3) When will their scheme or schemes be ready for submission to the Board with the particulars asked for in the Circular above referred to, and for how many houses will they provide?
- (4) Have the necessary sites been—
  - (a) selected?
  - (b) acquired?
- (5) Is there any work such as the development of the housing sites and the construction of roads, sewers, etc., which can be put in hand immediately when demobilisation begins, without waiting for the final approval of the plans of the houses?

"A form for supplying this information is enclosed. It should be filled up and

returned to the Board without delay, in no case later than the 1st proximo.

"I am at the same time to draw attention to the fact that the Report of Committee appointed to consider 'questions of building construction in connection with the provision of dwellings for working-classes in England and Wales Scotland and report upon methods securing economy and despatch in provision of such dwellings' has been published as a Parliamentary Paper [Cd. 9191], price 1s., and can be obtained through any bookseller or directly from His Majesty's Stationery Office at Imperial House, Kingsway, London, W.C.2; Abingdon Street, London, S.W.1; Peter Street, Manchester, or 1, Andrew's Crescent, Cardiff.

"The President feels sure that this report will be found of great service to local authorities who have this important question now before them, and he trusts they will give it their early attention.

"I am, Sir, your obedient servant, H. Monro, Secretary."

### *Housing in Birmingham.*

Birmingham City Council have given their Housing and Town Planning Committee authority to promote in the next session of Parliament a Bill which will enable the Council to make use of certain powers for securing increased housing accommodation in the city. The Bill asked for in this Bill would give the Corporation facilities for the provision of houses: By acquiring and developing land and leasing it for building purposes. By purchasing and selling building materials. By promoting and extending public utility and co-partnership societies or other potential building agencies. By assisting builders. By enlarging the powers of operation relative to the acquisition of land and the retention, sale, letting, and disposal of land. By amending and extending the powers of the Corporation under the Housing of the Working Classes and the Small Dwellings Acquisition Acts.

### *Scottish Building Schemes.*

In the House of Commons, Mr. Munro (Secretary for Scotland), in reply to Mr. Duncan Millar, said that while no building schemes in their final stage had been submitted for approval to the Local Government Board for Scotland, several local authorities had schemes in preparation for about 9,000 houses.

### *A School for Housing Lecturers.*

The Garden Cities and Town Planning Association has arranged a week-school for lecturers and speakers will be to address meetings under the auspices of any organisation on the housing question. The course will begin on Friday, November 29, and will last until Monday, December 2. Most of the work will be done at the Central Buildings, Westminster, where there will also be inspection of the Hamstead and Letchworth garden suburbs, and a dinner at the House of Commons.

### *Rotherham Housing.*

Rotherham Corporation Housing Committee have decided to recommend the Council to appoint as architect under the housing scheme, at a salary of £500 per year, Mr. G. A. Broadhead, assistant architect of the borough of Swansea. Mr. Broadhead has served on the staff of the city architect at Nottingham, and in 1914 obtained his present post at Swansea. He has had unique experience in solving housing problems, and has already prepared schemes for the erection of 5,000 houses in various parts of Swansea.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

NOVEMBER 27, 1918.

TOTHILL STREET, WESTMINSTER.

VOLUME 48. No. 1247.

## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in saving the efforts of the Government Paper Controller to eliminate waste. This they may do in one of two ways—*

*By placing a direct subscription for the Journal with the Publisher, or*

*By placing with a newsagent an order for its regular delivery.*

### The King on "A Better Britain."

the King's eloquent reply to the addresses presented last week by the Lords and Commons in the Royal Gallery of the Palace of Westminster, were passages of immense practical significance. "We have," said His Majesty, "to create a better Britain, to bestow more care on the health and well-being of the people, and to ameliorate further the conditions of labour. May not the losses of war be repaired by a better organisation of industry and by reducing the waste which industrial disputes involve? Is not a spirit of reciprocal trust and combination of effort to be diffused among all classes? May we not, by raising the standard of education, turn to fuller account the natural aptitudes of our people and open up new sources of intellectual enjoyment?" His Majesty suggested that the spirit in which these great problems should be approached should be that which was instilled. "It is on a sense of brotherhood and mutual goodwill, on a common devotion to the common interests of the nation as a whole, that its power, prosperity and strength must be built up." It would be hardly possible to state more briefly yet with equal force the momentous social and industrial problems and issues of the hour. Of course, it can be maintained that every human interest is related to building, but in the instances before us there is no need to prove the relationship. It is self-evident that better housing implies better building, whether of workshops or of dwellings, and that the greater degree of health and comfort thus obtained affects not only efficiency and economy in production, but also the character of the workers. It follows, as a clear matter of course, that much "labour unrest" would be avoided if the workers had better reason to be contented with their environment at home and at the works.

### Towards Industrial Peace.

But while a decent environment is of first-rate importance in promoting health, good will, and efficiency, and is a cardinal factor in the industrial problem, it is not even the chief factor; unless, indeed, it can be said to imply the "spirit of reciprocal trust" to which the King referred in so significant a phrase. But as the greater includes the lesser, we should be inclined to rank this spirit as the inclusive object. Eliminate it, and we may well despair of lasting industrial peace. How to win the confidence of the workers is the kernel of the problem. Education, as the King suggests, is an avenue showing a fair prospect; but if it were of the wrong kind, and had for its chief effect the crowding of blind alleys with half-educated and wholly disoriented young men, who would devote the remainder of their natural or unnatural lives to the tormenting of labour troubles and general discontent,

then we should be worse off than before. Education, however, does not necessarily graft "champagne tastes upon a beer income," but may conceivably have the effect of broadening the views, as well as developing the intelligence and increasing the skill of rich and poor, and of imbuing these antitheticals with mutual respect. "Better organisation of industry" should include as essentials not only the co-ordination of departments, but the correlation of various industries, which are all dependent on each other, however remotely; and the technical education not only of the rank and file, but of the officers and principals also. Industry suffers quite as much from ignorant superintendence as from inefficiency and other faults in the manual workers, and the manual workers know it. That is one reason of their discontent, and it is also (is it not?) a temptation to them to maintain a low standard of efficiency comparable to that which they observe in their officers. Talk to them about technical education, and they tell you that the managers need it more than they do. Too often the retort is just, and this is a point that should by no means be left out of the account when the case for reorganisation is being restated.

### Busy Ministers and the Housing Bill.

Reverting to the speech with which the Prime Minister opened the election campaign at the Central Hall, Westminster, we had not space last week to mention that "A Voice" tried to pin him down to particulars about the Housing Bill. He refused to be drawn, but nevertheless made a remarkably frank admission. "I cannot discuss a Bill," he said. "I do not mind telling you that my mind and the mind of my colleagues has been so absorbed with the terrible problems of the war that we have had no time to go into Bills and plans." Of course that is so: the explanation was not necessary; it merely confirms what was common knowledge. It is for this reason that criticism has been lenient to the point of inanity. That, however, was a war-time emergency. Whatever Government comes into power as a result of the General Election now impending may expect to be dosed pretty freely with the bracing tonic of uncensored criticism. A Housing Bill, or any other Bill, that was easily tolerated under war conditions, may be remorselessly raked fore and aft in time of peace; and the half-completed and half-hearted domestic measures left at loose ends by the old Parliament will assuredly be reconstructed by the new, of whatsoever complexion the new may be. As every item of domestic policy affects, whether remotely or directly, the conditions of building, it behoves all who are attached to that great business to watch over its interests at the election—to approach all candidates with searching questions as to their soundness on the domestic subjects with which the next Parliament will be almost exclusively occupied.

### Why was the Bill Withdrawn?

Foremost among these internal affairs is, of course, the Housing Bill, which is literally and pre-eminently of domestic character. Why has it been withdrawn from Parliament? Because it is a timid and inadequate measure of which the Government were ashamed when they found time to look into it, and because it was despised and rejected by the Labour Party, for whom it was intended as a sop; by



the capitalist-cum-ratepayer section of the community, who regarded it as a means of "specially favouring one particular class at the expense of the other classes"; by municipalities, who cannot be accused of taking it up with any wild excess of enthusiasm; and by the "private owner," who wants more consideration than the Bill indicates. As it stands the Bill has hardly a friend in the kingdom. For all its shortcomings the war is the great excuse; and the case now is that it is a bad Bill that the Government were ashamed to take before the constituencies, but that, the war being over, they are now prepared to substitute for it a far better scheme, which shall entice the Labour vote without alienating the other electors. It will take a cleverly drafted scheme to please all sections; and if it succeeds in that object it may be confidently expected to be splendidly null with respect to its ostensible purpose.

#### Priority in Building.

One advantage of bringing the Bill before the electorate is that the new Government will obtain a mandate for or against it. Another is that public opinion will be more fully elicited on points about which statesmen are at present pretty much in the dark. We shall then be able to glean what Labour and the ladies, to say nothing of others who are more or less directly concerned in the issue, really want. Something that architects and builders really want, and that very definitely, and not entirely in their own interests, but in the interests of industry and education, is an explicit assurance that the Government will not, after urgent State requirements have been met, divert all the available men and materials to housing demands. Let it be granted that the erection of working-class dwellings is a pressing necessity. So are several other classes of buildings—notably factories and business premises generally. In other countries building has not been brought to a dead halt as it has been in Britain, and consequently our trade rivals will have a long start of us. If this handicap, already too heavy, is to be increased, British trade interests may have great difficulty in achieving the expansion necessary to quick and complete recovery from the wasteful effects of the war. We hold, therefore, that factories and business buildings are as urgently necessary as houses.

#### Urgent Need for Factories and for Repairs.

It ought not to be necessary, but probably is, to press home the claim that several types of buildings should advance *pari passu*—that there is no reason why they should not and that there is every reason why they should. Houses for workers are unquestionably a great national need, which, however, lends itself with facility to exaggeration, especially as an electioneering cry: for which purpose, one may imagine without excess of cynicism, it has been rather astutely reserved. When it has served this turn, the politician's interest in it will drop as near to zero as the strength of the Labour Party will allow it to fall. From this, however, it must not be lightly inferred that the menace to other forms of building is not so great, after all, as alarmists have assumed it to be. Obviously there is considerable danger that candidates for Parliament will be badgered and heckled into giving pledges of priority for the building of small houses. This tendency should be rectified in every constituency by waiting on candidates to explain (as to an infant class) that factories and business premises are imperatively needed, that there are new and urgent demands for school buildings to meet the requirements of a drastically revised system of education, and that everywhere buildings of all descriptions are falling to ruin for want of repairs which, in countless instances,

had been scandalously neglected before the war broke out, and their present condition is parlous in the extreme. For want of a nail the shoe was lost and the horse fell lame. Many a house is perishing for want of a coat or two of paint, or slight attention to the roof. Worse still, many a house is sadly in need of cleansing and distempering—is, in fact, the lurking place of assorted malignant microbes. There is, it is clear, abundant material for an excellent case against monopoly for housing; and local architectural associations may do good work in stating such a case in all constituencies, and by offering guidance to the Post-War Priority Committee of Ministers mentioned in the report of the Building Materials Supply Committee of the Ministry of Reconstruction—the Carmichael Committee—whose summarised recommendations were printed in last week's issue, page 239.

#### The Old Factory.

Those who are closely watching the tendencies of modern architecture would not be surprised to see the new movement spring from the factories. In no other direction has there been any recent stimulus of equal strength to that which has produced a new type of factory infinitely superior in every way to the old "blot-on-the-landscape" building, the mere sight of which must have driven many a man to drink. It seemed to arise, but, in effect, not precisely phoenix-like, out of its own ashes, and was more so depressing than a prison-house. Depression and discomfort were thought to be good for the soul of the worker. Unless his spirits were kept well below par he might wax fat and kick. From the horrible delusion that made a factory, with its vile odours, gloom, its grime, its deadly atmosphere, its appalling ugliness, a little better than a purgatory, and, things considered, a great deal worse than a penitentiary, we have now, it is to be hoped, shaken ourselves free. In the coming rush, those who, either through employing the wrong people to design and construct it or through a miscalculation of economic effects, revert to the old style of building, will soon find that they have made a most serious initial mistake—that they have to pay the penalty for falling behind the movement.

#### Utility of Beauty.

It is evident that factory building in the reform manner is widening the scope of architecture as well as increasing the opportunities of the architect. Nor can it be without influence on other types or classes of building, but whether that influence will be positive and progressive, the organic truth and simplicity of factory design sounding the keynote, or whether it will be negative and reactionary, resulting in a frantic effort to escape from the factory style, it is too soon to predict. We would fain hope, however, and are much inclined to believe, that the old snobbery and fast taste which, in less democratic times, would have led to an avoidance of propriety itself if only that virtue had been common, have but a slight chance of surviving the dawning age of utility. But the coming utilitarianism will be very different in character from the old, which made hideousness a cult. In the old days of the rise of steam power, the utility of beauty was not recognised. That to-day we have a clearer vision is evident from the attention given to factory design, from which there has been evolved a masculine type of beauty that is pretty certain to be reflected in other than industrial buildings. In the controversy over the accepted design for the London County Hall, it was said that the elevation suggested a blacking factory. If blacking factories had been built in the new mode, the comparison would have had a sting—might, in fact, have been a compliment; for there is no earthly reason why a blacking factory should not be a shining example of architectural merit.



## A CHEPSTOW HOUSING SCHEME.\*

BY WILLIAM DUNN AND W. CURTIS GREEN, F.F.R.I.B.A.

CHEPSTOW was a typical old-world market town and residential place, with but one industrial concern in it—the engineering and building works of Messrs. Edward Finch and Co., the bridge. The Standard Shipbuilding Company acquired the Town Meads—flat land lying between the Great Western Railway and the river—planned the lay-out of a shipbuilding yard on a large scale. For the accommodation of their workmen and the men employed by Messrs. Finch—and another company—houses were required. Land was bought, and the work of laying out the streets and building the houses was put in the hands of my firm.

*The Site.*

The site of these houses is about 28 acres in extent, lies just outside the Port wall. It formed a little valley, bounded on the northern side by the Port wall on the crest of the hill, and on the southern side of the valley the heights of Hardwick Hall. At the top end of the valley there are the houses outside the town wall: the outlet of the valley lies the river, but severed from the site by the railway, which crosses the valley on a high embankment, and by the Town Meads, now a shipbuilding yard. Down the centre of this valley there was an old road extending halfway down, and on each side a footpath leading to an archway under the railway.

*Lay-out of Streets.*

It was evident that here we could not lay out the streets on any grandiose axial plan. In towns such as Chepstow on hilly sites we find much steeper road gradients than in towns on the plains, but, even so, it was great difficulty in getting lines of streets with practical gradients, and the more we worked on the scheme the more we realised this. These gradients should be as low as possible, not only for the convenience of foot and wheeled traffic, which in this instance (with no through roads) is not great, but for the keeping down of cost in maintenance of the road surface and of the sewers, which suffer from scour if laid at too steep a fall.

The entrance to the estate from the town is at the point where the old road began. The railway arch at the bottom, where the footpath ended, was to be the entrance to the works of the Standard Shipbuilding Company, in which the inhabitants, or at least the male portion of them, were to be employed. If the existing sewer were sufficient for the work—and this was a new sewer—it seemed reasonable to form the central line along its line. Calculations were made by the usual formula, allowing for the rainfall, the slope of the land, the absorption of the ground, the water supply, the number of inhabitants, the size and slope of the pipe, etc., and it was found to be sufficient. The central road, called Hardwick Avenue, was then permanently fixed. This avenue is 36 ft. wide.

The side streets have to be at such distances apart that they will give space for two houses and their gardens—at least 155 to 190 ft., say. The general direction of the side streets follows the natural contours of the land. It was only by following these contours, more or less, that reasonable gradients could be obtained. The other reason for this principle of lay-out was this: the backs of cottages have long frontages and narrow rear plots. As the frontage is generally parallel to the street, which is the lower gradient, there is less difficulty in keeping the floor and roof levels of the cottages in a block alike. The falls from back to front are steeper, of course, but the depth of the rear plot is comparatively small. The streets could

not be made to follow exactly the contours of the land; the final lines were arrived at by a process of trial and error. The streets were set out by the theodolite, the straight streets pegged out at intervals of 100 ft., the circular roads by pegs at 50 ft. intervals. In setting out these circular roads, Rankine's rule for setting out by one theodolite and the chain was used, as it entails only one position of the instrument.

*Width of Streets.*

The width of the streets are 24 ft. and 36 ft. with 14-ft. and 24-ft. carriageways respectively between the curbs. The wider the street the greater the expense in cutting and filling on so steep a site. There is very little traffic here, and it would seem that in practice these widths are sufficient. The roads are of ordinary construction of 8 in. of local stone pitching, covered with 6 in. of metalling or ballast, rolled in with local gravel and sand. A 3-in. layer of ashes was put under the pitching generally. The footpaths are of 2-in. granolithic slabs, laid on a bed of ashes, and the kerbs are of 12-in. by 6-in. Blue Pennant or Saurian stone (laid flat). The gutters were laid in tarmac.

*Open Spaces.*

Three open spaces were proposed: one in the centre of the site, to be planted with trees round it and to be provided with benches, as a village green; one at the top end where the site is fairly level, intended for bowling greens or tennis courts; and one—the largest—at the lower end, for general recreation ground. Part of this is below the level of the railway, and is being filled up to that level.

*Number of Houses per Acre.*

The scheme proposes about ten houses to the acre. The garden ground to each cottage varies in extent, partly by design, as the tenants have not all the same time, or the same wish, to cultivate the land. The soil is very good here, and the tenants already in occupation have made excellent use of it in growing vegetables.

*Back Lanes.*

For the supply of coals, the removal of waste, and to give access to the back doors, by which the working man enters after the day's work, back lanes have been formed. These back lanes, except in a few cases where through-communication was specially required, have been dead ends. They were so made, as it was believed that lanes with through-ways were open to objection, in that they facilitated thieving and other improper use of the lanes. The lanes which are at right-angles to the streets have steep gradients. To prevent the surface being washed away in times of heavy rain, these are formed in wide steps of about 4-in. rise and 2 to 3 ft. or more width. All these back lanes are laid with tarmac paving.

*Sewerage Scheme.*

In the design of this there was a difficulty, not in getting sufficient falls, but in keeping the falls within reasonable limits, not only because of the scour reducing the life of the pipes, but because we have here no separate rainwater system and a too rapid discharge might be objectionable in times of exceptionally heavy rain storms. In the central road—Hardwick Avenue—the old 9-in. pipe sewer remains. In the other streets 6-in. sewers are used, except on one side, where a 9-in. pipe sewer was laid for special reasons.

These pipes are laid on a bed of concrete, and the invert of the pipe is in general 4 ft. 6 in. to 5 ft. below the surface. If nearer the surface the pipes have to be covered by concrete to prevent breakage; if deeper, expense is incurred in rock excavation, as a loose rock



is found a few feet down. Manholes are placed about 200 to 300 ft. apart. They are ordinary brick manholes with step-irons, and have Adamsez conical manhole covers, which have no sharp junction between the iron and the road material. Road gulleys were put at rather less distances apart. There are no ventilating shafts to the sewers, and it is not likely that they will be put.

The sewers were laid before all the houses were designed. Whenever the exact position of a required connection for a block of cottages was known, the branch drain was put in at the same time as the sewer. Where these positions are not known, it seemed, on the whole, better to break up the road afterwards than to put in eyes in the pipes, which interfere with the self-cleansing action of the sewer, and may never be used. Generally, there are two connections to the sewer for each block of cottages, one at either end.

#### *The Houses Generally.*

In a scheme such as this, designed for various classes of workmen, labourers, skilled tradesmen, foremen and clerical staff in a shipyard, there must be some variety in the extent and quality of the accommodation.

The smallest house has a living room or kitchen of about 108 square feet area, three bedrooms, a scullery with bath, a fuel store, w.c., and larder. The largest so far designed has kitchen, parlour, dining-room, four bedrooms, bath with hot and cold water, scullery, and offices. It would be economical in many ways—in the architect's labour, for instance—to use a few types and repeat them all over, but the result would probably be disappointing from the sameness of the designs. The British working man is by no means indifferent to the value of a house of some individuality and a pleasing appearance, though he often says that all *he* cares for is good accommodation. He is not enamoured of the streets of houses in which the only means of identifying his dwelling-place is by the number on the door. In our case, the discussion of pros and cons for type-plans was useless, as the hilly site made it impossible to do much in the way of standard plans. Each block of cottages had to be planned to suit very uneven sites, and there were also the aspect and prospect to consider. All around are splendid prospects of the neighbouring hills, and as each row of houses rises, terrace-fashion, one above the other, there was strong reason for considering this question of prospect.

As to aspect, sun is so important to us in our island climate that we made great efforts to get sunny rooms. No architect would willingly put houses of the same plan on both sides of a street running east and west.

To carry out these ideas entailed much variation in plan and a great deal of thought and work, which we hope has its reward in better conditions for the occupants. In some parts of the Midlands it is usual to have a small kitchen and scullery combined, in which the cooking range, the copper and sink are placed, so as to leave the living-room for use as a parlour. This plan is not so popular in the south, and was not adopted here. The living room is made of a good size, and the range is placed in it, so that it serves as a dining-room and a kitchen, the scullery being reserved for washing and a gas-cooker. The objection that the range makes the room uncomfortably hot in summer does not apply when a gas cooker can be installed, as in this case, and the kitchen fire in the room used as a sitting and dining-room saves coal in the winter.

All the accommodation required is provided within the walls of the house; there are no outhouses.

#### *Outlines of Cottage Blocks.*

It is sometimes recommended that the outlines of the cottage should be plain rectangles without breaks. These square blocks are possibly cheaper, but difficult to make attractive. It is not so long ago that a meeting of Trade Unionists passed a resolution objecting to what they called "the brick-box with slate lid" type of house, and as most people will share

the objection, we might be justified in departing from a rigid economy for the sake of appearance. Fortunately or unfortunately we had little option here; the sites compelled us to adopt the irregular form in many cases.

#### *Materials and Construction.*

The external walls are built of two thicknesses 4-in. thick solid plain concrete blocks with a cavity, with the usual iron ties. The blocks made in Winget blockmaking machines, of which we had two on the works.

In the first cottages built the blocks were each 3 ft. long, 9 in. high, and 4 in. on bed, except the close ends. At the corners L-shaped blocks were used. It was found that the workmen objected to handling heavy blocks, and in later houses the length was reduced down to 16 in. The appearance of the shorter blocks is not so good, and the walls are not so strong to resist settlements, though so far we have had no settlement to contend with. These hollow walls were built direct on the foundations without footing courses. The foundations were of cement concrete, 9 in. thick and 2 ft. wide. The lintels had steel reinforcement, varying in amount with the span.

The concrete blocks were made on the site, of broken stone chippings and sand, and we were confident from experience with other such blocks in cottages in the West Country that the appearance would be better than that of a wall of large pressed bricks. The usual cold grey textureless surface of concrete walls arises from the floating of the finer materials to the face of the wall. Here we used a dry mixture of concrete, so that we did not have that result. The face-mould—a cast-iron plate—had grooving cut in it, giving what is called in masonry a droved surface to the finished block, which has nothing of the appearance already mentioned.

The partition walls were also made of the same blocks, without, of course, the droved face. The thickness was 4 in. for bearing partitions, and 2 in. for the small partitions dividing sculleries, larders, fuel stores, etc. No plastering was done on the walls of these sculleries and domestic offices on the ground floor. The internal effect is like dressed stone. The saving in first cost of plastering is considerable, and there are no recurring bills for repairs to plaster which absorb so much of the rent.

The roofs are covered with sand-faced tiles varying in colour. It was found that the extra cost of using these tiles instead of the cold-blue Welsh slate was little, and when you consider the æsthetic effect of red-tiled roofs and grey walls, as compared with blue slate and grey walls, there can be no question that the small extra cost was well spent.

The valleys are all swept valleys in tiles, and ridges plane roll tiles such as you see in all the cottages in the districts where tile roofs are used. Lead was unprocurable, so that none was used. A few small valley-gutters were laid in Ledkore, and at junctions with the vertical faces of chimneys, they were made in cement. The workmen who did the tiling were skilled men, who took a pride in their work, and it is pleasant to record that, so far, there has not been a single case of leakage through either roofs or walls.

The doors, windows, stairs, and chimneys, etc., were standardised, a limited number of types being used.

The first fifteen houses cost about £450 each, exclusive of any proportion of roads, sewerage, gas supply, formation, or fences. The second fifteen cost about £530 each. We cannot determine the cost per house of the remainder, as the cost of wages, etc., has risen a good deal.

#### *Discussion.*

Mr. Raymond Unwin, F.R.I.B.A., moving a vote of thanks, said that Mr. Dunn had given them a masterly



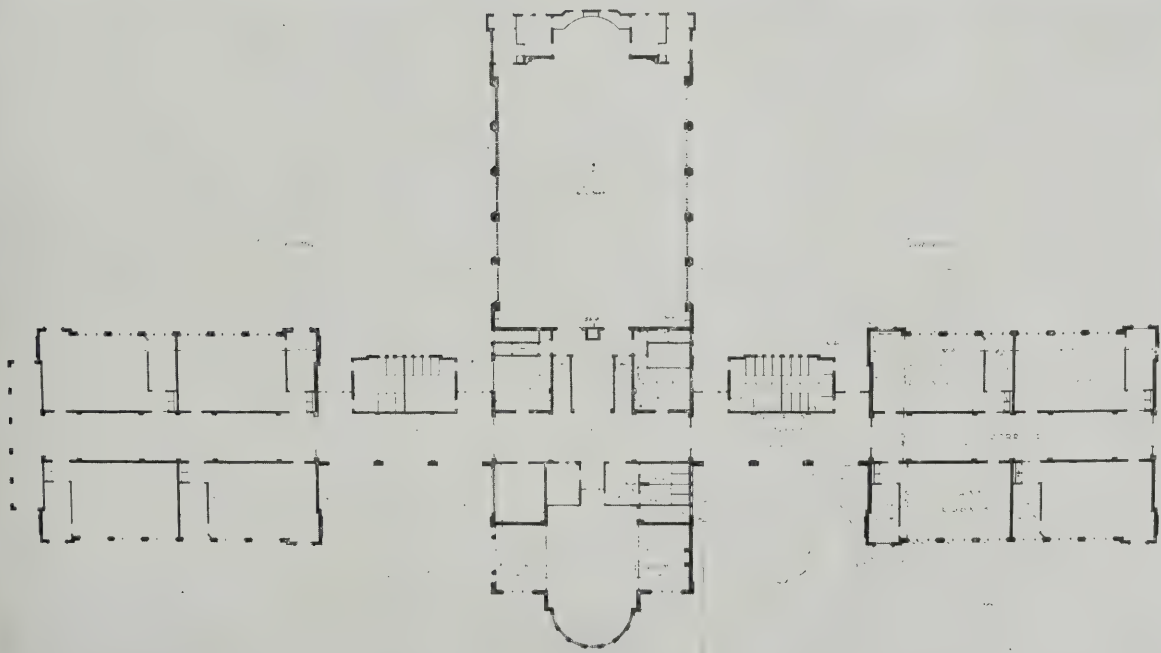
MODERN AMERICAN ARCHITECTURE (SERIES III.). VIII.—CORONADO OPEN-AIR SCHOOL, SAN DIEGO, CALIFORNIA.  
QUAYLE BROTHERS AND CRESSEY, ARCHITECTS.







Corridor.



Plan.

MODERN AMERICAN ARCHITECTURE (SERIES III.). IX.—CORONADO OPEN-AIR SCHOOL, SAN DIEGO, CALIFORNIA.

QUAYLE BROTHERS AND CRESSEY, ARCHITECTS.



Vol. 1, 1880  
OF THE  
INDIS



VASES. XIII.—SILVER VASE AND COVER, REPRESENTING "BRITANNIA TRIUMPHANT" (1805-6).

DESIGNED BY J. FLAXMAN, R.A.

(Reproduced by courtesy of the Director of the Victoria and Albert Museum.)



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MONUMENTS. XLVI.—EQUESTRIAN STATUE OF THE MARÉCHAL DE VILLARS, DENAIN.

HENRI GAUQUIÉ, SCULPTOR



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*[Handwritten scribble]*

monstration of the importance of having a roughly competent architect in charge of every building scheme. He thought they must especially congratulate Mr. Dunn on the complete success with which his constructional work had been carried out. It had not had a single leakage in walls or roofs—that was certainly a triumph in concrete construction, which good many people who had tried it would not be able to claim. It would be useful to know whether he had the majority of his blocks practically green from the machine a few days old, or whether they had time to mature, and what mortar cement or lime mortar he used. With regard to the question of the hot-water supply, there was a great demand among the working men of the country for improved labour-saving appliances in housework, and he thought it probable there would be developments along the line of better systems for heating water and more economical means for using heat for cooking and heating ranges. Professor S. D. Adshead, F.R.I.B.A., seconded the motion, and said he was a little surprised that Mr. Dunn had not done something rather more original in regard to the construction of his walls. He thought that in the future they would get concrete cottages that would not absorb quite so much materials—structures which would be erected in a more scientific manner in large numbers, where the raw materials and craftsmanship were available. In regard to colouring concrete, his own view was that cement under any circumstances got dilapidated after any length of time, and he personally liked to see it coloured.

Mr. Herbert Baker, F.R.I.B.A., asked Mr. Dunn whether he had worked out the question of a communal hot-water supply in connection with his scheme. The President, Mr. Henry T. Hare, said he gathered from what Mr. Dunn had said that if the conditions were not been what they were he would have used ordinary brick walls for his cottages instead of concrete. Certain manufacturers of concrete blocks said that they were cheaper than bricks, but as far as he had been able to ascertain that was not the case when a fairly easy supply of suitable bricks. Where concrete blocks were being used, the larger they would be cast within the limits of easy handling, the more economical they would be. He should have thought that it was necessary to cover the blocks with something in the nature of cement or lime whitening in order to conceal the joints. On the point of employment of architects in connection with the provision of houses for the people, the Institute had taken every possible action to ensure that policy being carried out. All the negotiations they had had with the Local Government Board in connection with the competitions recently held they had put forward that consideration in the strongest possible way. Further, they were sending a circular to local authorities throughout the country in the same sense, suggesting that in every case it would be to their interests to employ an independent architect. The Local Government Board had given them the assurance that, although they were in a position to insist upon the employment of architects, they would make it known to the local authorities that such was their desire.

Mr. Dunn, replying to Mr. Unwin's question, said that the concrete blocks were usually used not less than a week old, but, as a rule, they were older. They were set with cement mortar, and the joints were made smooth. If they were limewashed, as suggested by the President, they would lose their charm of colour, and it would be a needless expense. He did not think concrete blocks were likely to dilapidate with age. As to the communal hot-water supply, he had not yet found a method of doing that on a practical scale, especially on such a site as he had to deal with at Westbury.

Before asking Mr. Dunn to read his paper the President said he thought he ought to refer to the great

events that had occurred since they met last. The war was over, and they had accomplished in the most complete and thorough manner all that they set out to do. In their rejoicing they must not forget those who had made the great sacrifice for their country. Many of their most promising and gifted young men had gone from them. The licentiates and students who had been killed in action numbered no fewer than 135, and the list was not yet complete.

## THE PLATES.

### *Coronado Open-Air School, San Diego, California.*

THIS is a good example of open-air school design. Each class room, including the upper-floor rooms, can be thrown wide open by means of French doors, which make up the sides of the rooms and open directly on landings or flat balconies. In addition the class rooms have a full-length range of transoms over the blackboards on the inside walls, assuring cross ventilation and ample sunshine at times when ordinary class rooms would not be able to secure these benefits. The only corridor in this interesting group forms the axis of the buildings, and affords unusual facilities for supervision, aiding discipline by its unbroken length. The corridor has a curved roof of concrete, and is lighted by sidewalk prism panels. Kahn System Reinforcing products are used throughout.

### *A Commemorative Vase.*

This vase, commemorating "Britannia Triumphant," was designed by J. Flaxman, R.A. It is of silver, and bears the London hall-mark for 1805-6. The height is 17 in. and the width 10½ in.

### *Equestrian Monument to Maréchal de Villars.*

M. Gauquié first became prominent as the designer of the fine lamp standards on the Pont Alexandre III., Paris. That he is equally brilliant as a sculptor is apparent from his realistic equestrian portrait statue to Maréchal de Villars, at Denain—a remarkably vigorous and spirited piece of work.

## CORRESPONDENCE.

### *To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.*

#### *Christmas Hospitality for Overseas Troops.*

SIRS,—At this time of rejoicing every one of us desires to express gratitude to those who have helped to protect our homes. Thousands of overseas troops will be on leave over Christmas, and unable to mingle with their own folk at home. I desire to appeal to your readers, on behalf of the Rotary Club of London (as representative of the Building Trade therein), to open their homes to one, or preferably two, of these boys. All imaginary difficulties are surmounted. The characters of the guests are vouched for, the railway fares are paid, they will have their food ration books, and if the hostess has servant difficulties, nothing gives the guests greater pleasure than to assist as they were accustomed to do in their own homes. We have to bear in mind that to them even a humble home is as a palace compared to the average hut or canteen.

Will those of your readers who can help please communicate with me by return?

Trusting that this appeal to my fellow-countrymen will not be in vain.

Yours faithfully,

HIGGS AND HILL, LTD.,

(E. J. Hill, Director).

Crown Works, Lambeth, S.W.



## RECONSTRUCTION IN BELGIUM AND FRANCE.

VERY many inquiries are being received by Departments of His Majesty's Government from British firms wishing to resume their trade with Belgium at the earliest possible moment.

While there is no intention on the part of Government Departments—quite the contrary is the case (says the "Board of Trade Journal")—to curb the very natural desire of British firms to enter once again into trade relations with Belgium and give practical proof of their determination to be of assistance in the difficult task of reconstructing the liberated territory, it must be realised that no definite pronouncements can yet be made in respect of exports to or imports from Belgium.

The urgent needs of the armies in the field and of the civil population must necessarily be the first preoccupation, while it is clearly impossible for ordinary trade to be carried on until transport has been resumed. Shipping to Belgian ports has been discontinued since October, 1914, and many vessels formerly engaged in regular traffic to Belgium have necessarily been diverted to other trades, and in many cases have suffered loss as a result of the enemy's ruthless attacks on shipping. It is not possible, in the course of a few days, entirely to alter the complicated system of shipping allocation, and even if this could be achieved the Belgian ports capable of accommodating sea-going vessels are not yet available for commerce. The port of Zeebrugge—Bruges has suffered extensive damage as a result of the war, and it is difficult of access owing to the presence of vessels sunk in its approaches both by the British Navy and by the Germans before evacuation. The same remarks apply to Ostend. At both ports discharging plant, port equipment, and railway facilities have been injured or destroyed by the enemy, and many bridges and roads have been wrecked. Some time must necessarily elapse before either port is available for ordinary traffic. The port of Ghent is approached by the sea canal from Terneuzen, in Holland. The portion of this canal in Belgian territory has been the scene of severe fighting between the Belgian and German Armies, and it is understood that certain of the bridges spanning it have been destroyed and vessels have been sunk by the Germans in the fairway. Until technical examination is made it is impossible to say whether the port of Ghent may soon be ready to receive merchant shipping. So far as is known, the great port of Antwerp has not been extensively damaged, and it may be possible for traffic via Antwerp to be resumed in the near future.

Traffic via Northern French ports has necessarily to be largely restricted to goods for the use of the Belgian, French, and British Armies, and it is only possible at present for goods of the first necessity to reach Belgium through those ports.

### *Disorganised Railway System.*

In addition to the above, it may be pointed out that the whole Belgian railway transport system has been disorganised by the war. Large numbers of railway wagons and many locomotives were lost at the time of the German invasion of Belgium, and the Belgian rolling-stock saved from the invader has been in continuous use on the French railways for military purposes throughout the war.

Many railway bridges, viaducts, switches, crossings, and rails have been damaged by the retreating enemy, and a normal service of inland transport must take time for re-establishment, particularly as many of the Belgian canals (forming an important network of inland communication) will be out of use until the barges formerly using them are again available, even if the canals themselves have not suffered extensive damage in many parts of the country.

From the above remarks it will be seen that there were no restrictions whatever on the free export of all goods to Belgium it would be physically impossible for ordinary traffic to Belgium to be begun at once, and in the circumstances it is hoped that British firms will refrain for the moment from addressing to Government Departments inquiries which can serve no useful purpose and can only be answered in general terms. It will be obvious to all that, even if shipping facilities were provided, it would be useless to send large quantities of goods to Belgium until means of discharging and distributing them were available.

British traders are well aware that there have been and still are numerous restrictions on the export of goods from the United Kingdom to both Allied and neutral countries, and, although it is hoped that many of these restrictions may be relaxed in the near future, definite decisions in matters of great importance to this country as a whole cannot be taken without careful consideration.

### *Work of Reconstruction.*

In the above remarks no special mention has been made of the vast problem of the reconstitution of Belgium. Naturally this is, in the first place, the concern of the Belgian Government and people themselves, and it will be the duty and privilege of the great Allies who have suffered least material loss or damage to their resources to help in this great task in the manner most welcome and beneficial to the population of Belgium as a whole. The problem of the reconstitution (this word is used in preference to the less expressive but more common term reconstruction) of Belgium does not solely mean furnishing that country with the many and various goods of which it will be in need; it implies also the complete rebuilding of Belgium's trade, commerce, and industry, and agriculture, by which means alone the civil population can gain its livelihood, as well as the actual reconstruction of devastated and damaged towns, villages, and areas.

The general public may rest assured that the question of Belgian reconstruction and trade is not being neglected so far as His Majesty's Government are concerned. For many months past a specially constituted organisation has been engaged in the investigation of problems connected with the re-establishment and development of economic relations between the British Empire and Belgium, in co-operation with a similar Belgian body.

### *An Inter-Allied Commission.*

An Inter-Allied Commission for the Industrial and Agricultural Reconstitution of Belgium has been sitting for some time, and has been dealing with the practical side of the reconstruction of Belgium. Its main centre of activity is in London, and numerous statements of estimated requirements for Belgian reconstruction have been received and carefully studied in the

light of available supplies. It is hoped that no time will be lost in the practical commencement of supplying to Belgium the material and goods of which the country is most urgently in need; it will be possible, now that the country is on the eve of being completely purged of the occupying enemy, to obtain details of requirements in the immediate future. Much must, however, depend on the co-operation of private initiative, and it is urgently hoped that firms and individuals in this country will do everything in their power to bring about the reconstitution of Belgium and the development of British-Belgian trade relations.

### *Department of Overseas Trade: Special Section Set Up.*

A special section of the Department of Overseas Trade has been set up to deal with these matters so far as His Majesty's Government is concerned, and it is to this Department that inquiries relating to Belgian trade and reconstruction should be addressed as follows: The Officer in Charge, Department of Overseas Trade (Development and Intelligence), Belgian Trade and Reconstruction Section, Imperial House, Kingsway, London, W.C.2.

As soon as possible information will be conveyed to the mercantile community the steps they should take in regard to exports to Belgium, and announcements will be made either through the Press or through Associations of Trade and Industrial Associations, or by both these means.

### *Arrangements in France.*

The French organisation for industrial reconstruction purposes comprises:

(1) Ministère du Blocus et des Régions Libérées (Office de Reconstitution Industrielle des Régions Envahies).

This Ministry, in accordance with a decree dated December 13, 1917, is charged with "everything relating to the reorganisation of local life and means of habitation, the assistance to be given to suffering populations, the re-establishment of destroyed property, the repair of war ravages, the restoration of the land, and industrial and agricultural reconstruction." Its function is to draw up programmes of purchases, and supervise and control their execution.

(2) Association Centrale pour la Reconstitution de l'Activité Industrielle dans les Régions Envahies. This association comprises a group of manufacturers in the invaded districts, with the object of "pursuing every suitable means the reconstitution of plant and stocks in industrial enterprises and factories." Being prohibited by law from undertaking commercial operations, the Association established:

(3) The Comptoir Central d'Achat et de Vente Industriels pour les Régions Envahies, in the form of a limited company with a capital of 1,000,000 francs. Its address is 40, rue du Colisée, Paris. The functions of this body are defined by the law of August 1, 1917, and by an agreement entered into with the French Government on October 1, 1917.

This law sanctions a credit of 250,000,000 francs, and charges the Ministry of Commerce to purchase and distribute the necessary materials for reconstruction purposes through the "Comptoir de Reconstitution Industrielle." It provides for the transfer of actual opera-



agreement to a third party responsible to the Office Industrielle and subject to the approval of the Ministry of Finance. The Comptoir Central is the third party concerned.

The duties of the Comptoir Central are to submit data for purchasing programmes to the Office Industrielle; to find out and place orders with suppliers; to place contracts; to supervise their execution; to receive and store the material and distribute it to the manufacturers concerned. Their purchases may be made either upon specific requests from the manufacturers with the object of constituting stocks for distribution when required.

Reservations of material, which are subject to formal undertaking on the part of the Comptoir Central only to use the material for reconstruction purposes, are made by the Comptoir Central on behalf of the Ministry of Blockade either against cash payment or by debiting their value to potential indemnities for war damage.

A further statement on the subject of such reconstruction will be published later. Meanwhile inquiries from British representatives interested should be addressed to the Secretary, Commission Internationale de l'Armement, India House, Kingsway, E.C.2.

## USING IN SCOTLAND: PANEL ARCHITECTS TO BE SET UP.

Mr. Duncan Millar, in the House of Commons on November 14, complained of delay in settling wages claims of the men in engineering and allied trades, and urged that the advances paid to these should be retrospective as from August of the year. He also complained of the delay in erecting houses for war workers in the Middle Ward of Lanarkshire. So far, no plans had been prepared in Scotland for provision of only 9,000 houses, and the illness of the number indicated that the local authorities had to face difficulties in regard to finance and the acquisition of labour. The subject of housing was attracting more attention in Scotland than almost any other subject. He did not think there was any desire on the part of the Scottish people to be plunged into a General Election, but if they were there would be no effect more keenly canvassed than this situation was painful to a degree.

Mr. Pringle contended that the financial conditions proposed were such as to disorganise local authorities in taking action, and they would be involved in heavy liabilities. The rent suggested under these conditions could not be worked with any satisfaction to the public.

The Munitions Secretary (Mr. Kellaway) pointed out the practical inconvenience of applying an Order to the Scottish foremen was such a kind that if at all possible some other method should be adopted. If any work were made with regard to these men the Ministry would be faced with similar demands from men whose remuneration was on a similar basis in practically every other establishment in the country. It was much better that the Ministry should use its influence with the employers to get things backward. With regard to the situation in Lanarkshire, he said the Ministry of Munitions was not the culprit. It was the war which had held up housing. Labour and material could not be got. The situation in Lanarkshire was a scandal before the war, and the responsibility should not be put on the Ministry of Munitions. The Secretary for Scotland, dealing with

the general policy of post-war housing, said the hon. member (Mr. Duncan Millar) would search in vain for any scheme of housing in the records of this or any other State in which the State entering into partnership contributed so generously as 75 per cent., leaving the local authorities the comparatively small sum of 25 per cent. He could hold out no hope that this condition would be revised or modified in any degree. He appreciated the desirability of getting on in this matter, and while the difficulties of transport, cost of material, and scarcity of labour had formed a serious handicap in actually erecting houses, substantial progress had been made in the preparation of schemes during the last few months. Circulars sent out by the Local Government Board had elicited the information that there was a shortage of 108,902 houses. That was appalling. Nothing that could be done had been left undone by the Local Government Board to get a move on. The Board had arranged a competition among architects for the plans of houses to be erected, and it was proposed to constitute a panel of architects to advise and assist local authorities. A committee of women had reported on the planning of houses from the housewife's point of view. The prepared schemes for 9,000 houses in Scotland compared very well with the total for which provision had been made in England. They were thus distributed:

Glasgow, 6,738; Edinburgh, 744; Dundee, 1,060; Peterhead, 50; Haddington (Western District), 200; Rutherglen, 100; Maxwelltown, 100; Hamilton, 250; Wishaw, 200; Gourock, 600; Hawick, 100; Lochgelly (about) 50; Perth District, 18; total, 10,203.

## CONTROL OF SECOND-HAND TOOLS AND MACHINERY.

The following circular has been issued by the Controller of Machine Tools, Ministry of Munitions of War, Charing Cross Buildings, Embankment, W.C.2, under date November 11, 1918:

"Second-hand machine tools, wood-working machinery, and treadle lathes.

"I am directed by the Minister to intimate to the engineering trade that it has been decided that as from this date second-hand machine tools, second-hand wood-working machinery and second-hand treadle lathes may be bought and sold without the sanction of the Ministry and without restriction as regards price.

"In other words, the restrictions imposed by Regulation 30A of the Defence of the Realm Regulations and the Orders made thereunder will be suspended so far as such second-hand tools are concerned.

"It must be distinctly understood that the suspensions of the various orders covering second-hand machine tools, wood-working machinery, and treadle lathes does not in any way affect the position with regard to new tools. The Ministry regulations still apply in their entirety to all transactions in new tools covered by the Orders of August 28, 1916; June 5, 1917; and April 15, 1918.

"A further notification with regard to the sale of new machine tools, new wood-working machinery, and new treadle lathes will be issued in the course of the next few days.—I am, gentlemen, your obedient servant, Edward M. Iliffe, Controller of Machine Tools."

[This very welcome measure of relief coincides with, or follows at a short interval, relaxed restrictions on steel and other metals.]

## A FACTORY ON THE NORTH-LIGHT PRINCIPLE.

This factory, which is now in course of erection, is interesting on account of the method of construction adopted, which differs materially from the usual practice of reinforced concrete inasmuch as the columns, beams, and trusses are first cast as separate units on the ground and then erected after the manner of steel frame buildings.

The building, which is 640 ft. long, 200 ft. wide, and 14 ft. 3 in. high to underside of roof trusses and lighted from the roof, is divided in both directions into 20-ft. bays, with the exception of one bay, 200 ft. long, 40 ft. wide and 26 ft. 6 in. high, made to accommodate a five-ton overhead travelling crane. Fig. 2 shows the general plan of the building, with a longitudinal section of part of it.

The unit system of construction was adopted to minimise the use of timber shuttering, and thus meet the requirements of the Ministry of Munitions, and also to facilitate erection. The units are cast flat on the ground as near their final positions as is found convenient. A level site is chosen on which the centering comprising the bottoms and sides of the unit is laid. The shuttering is easily made in such a way that it can be readily put together or taken apart without damaging the timber by nailing, etc., or disturbing the concrete by forcible prising at removal. The reinforcement is then placed in position and the concrete rammed in the usual manner, the top surface being trowelled smooth. After the lapse of a few hours oiled paper is laid on the finished concrete, timber sides are placed on the top of the first set, and another unit is cast, this operation being repeated until a stack of about seven units is made.

The concrete is after a few days sufficiently hardened for the timber sides to be removed. The shuttering when cleaned and oiled is ready for the casting of a further set of units. It is obvious that a great economy of timber is effected, as the centering is repeatedly re-used at comparatively short intervals. Moreover, the use of wooden props required to hold up the concrete structure until it is strong enough to support itself is dispensed with altogether. The monolithic character so peculiar to reinforced concrete buildings cast *in situ* is to some extent lost in this method of construction, although it will be shown that in the case of junctions of beams and columns this loss can be reduced to a minimum by careful design.

A large portion of this work was performed during the winter, and a method had to be devised to warm the concrete to prevent freezing in cold weather. A steam main was taken from a portable boiler along the ground, and T's and loop pipes passed from it to the place where the concreting was being done. As the casting advanced to a higher level loops were lifted to the same level, and the concrete was thus prevented from freezing before setting.

The cost of warming was negligible, and the system enabled the builders to continue work throughout the frosty weather, which would otherwise have been impossible.

A unit is considered to be strong enough for handling when it is a month old, but the period of hardening would naturally vary with the conditions of the weather.

The column bases, which are, of course, cast *in situ*, are 3 ft. square and 3 ft. thick



with a socket in the middle 2 ft. 3 in. deep to receive the columns. Details are shown in Fig. 4.

The columns are 12 in. by 12 in. section with two 9-in. brackets on the top to carry the main beams. The columns are dropped into the base sockets, plumbed vertical, and then grouted in with cement.

The main beams, although cast as units, are designed as continuous beams. The continuity is obtained by the addition of 6 in. concrete and reinforcing steel after the unit is placed in position. When erected, the beams are 8 in. wide and 1 ft. 11 in. deep, with protruding stirrups on the top, but when completed they are 6 in. deeper. The ends of the beams are not laid to butt on the top of the columns, a space of 12 in. being left between them, which is afterwards filled in with concrete, projecting reinforcement from the beams

and columns, and the additional steel and concrete on the top before mentioned affording a means of binding the whole together, thus making it practically monolithic. An elevation and section of beam are shown in Fig. 4.

The concrete trusses are of the usual north-light type, spaced at 6 ft. 8 in. centres resting on 9-in. by 12-in. brackets, cast on the beams for this purpose. (For section and general plan, see Fig. 2).

They are secured to the beams by steel angle cleats bolted through holes cast in the trusses and beams for that purpose. It was considered desirable to tie the trusses together to resist wind pressure, and this was accomplished by laying 3/8-in. Kahn rib bars diagonally across two bays of trusses, buried in the roof slab and bent at the top and bottom around short bars projecting from the backs of the trusses. At the ridge

of the roof the slab is thickened to 6 in. to give lateral stiffness.

The roof slab is of concrete, 2 1/2 in. thickness reinforced with Hy-rib and rendered on the underside with 3/4-in. plaster. The reinforcement is fixed to the backs of the trusses by 2-16-in. diameter rods projecting from the latter. The roof is covered with patent asphalted felt.

Wooden glazing bars are used throughout, screwed at top and bottom to wooden plates, which in turn are bolted to roof slab by means of rag bolts.

The crane bay is cast *in situ*, as the design did not adapt itself to the usual method of construction.

Fig. 3 gives an excellent idea of a completed portion of the interior, with the perfect lighting obtained, while in the distance can be seen the crane bay in course of erection.



Fig. 1.

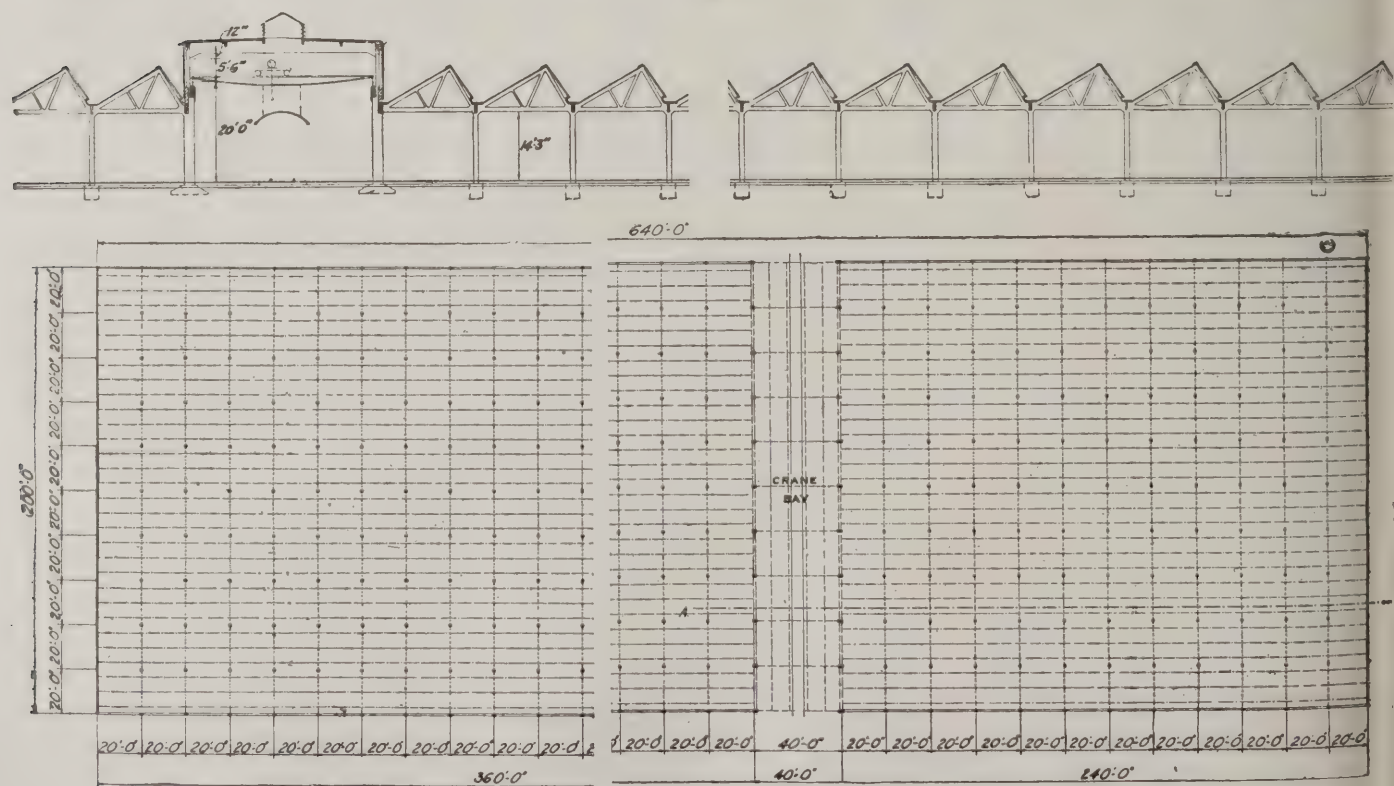


Fig. 2.



Fig 3.

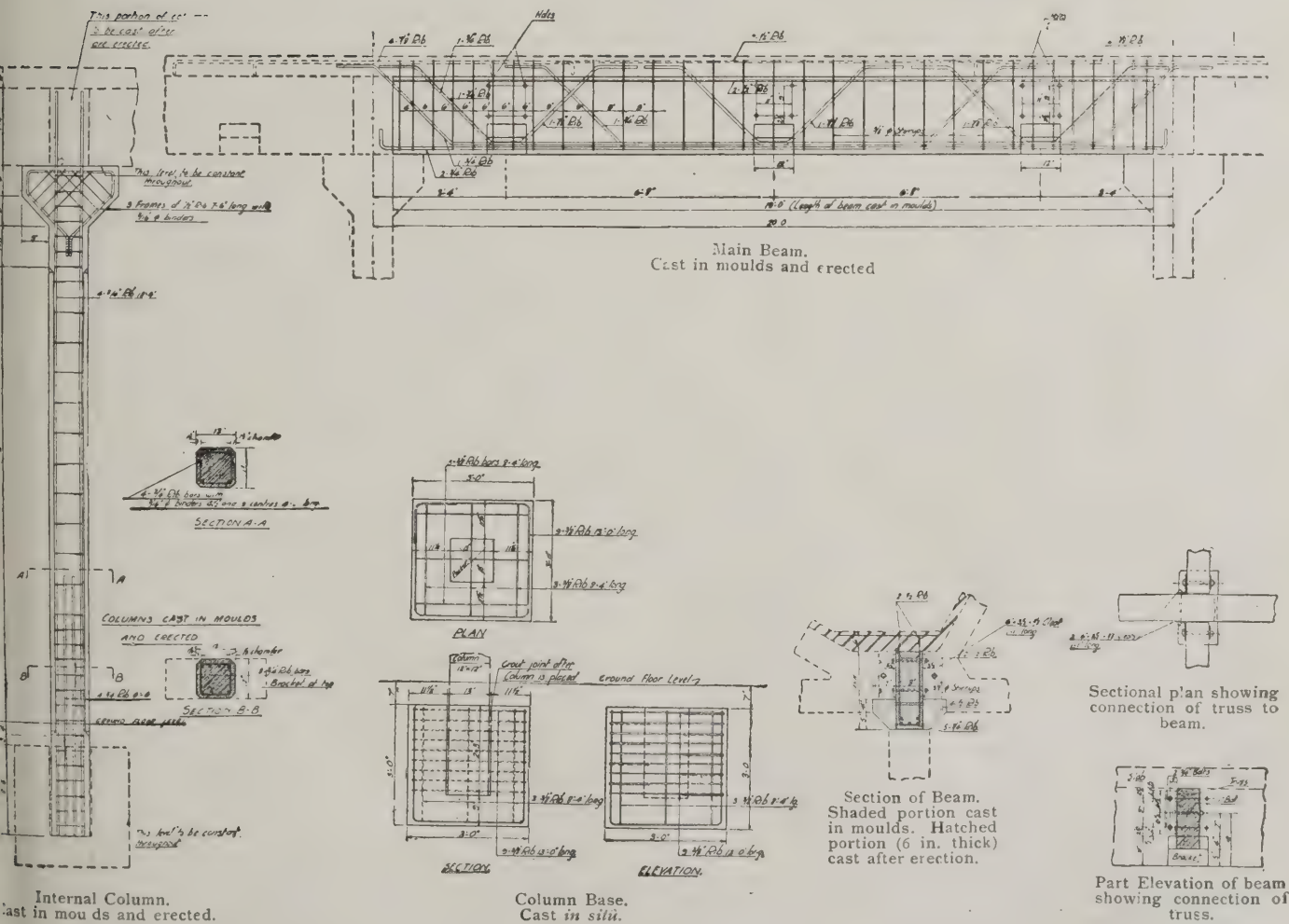


Fig. 4.



## THE WEEK'S NEWS FROM FAR AND NEAR.

### *Housing Instead of War Memorials.*

Councillor Charles Grey, who was elected Mayor of Morpeth, in returning thanks said he hoped that as soon as peace was declared the Council would not spend too much money on war memorials. The best war memorial they could erect to the brave lads who had risked their lives would be to provide decent houses to live in, with a nice garden.

### *Flats for the Disabled.*

The first block of flats erected for totally disabled men, at Fulham, will be ready and occupied by the end of this month. Similar buildings will be shortly erected at Scarborough, Bristol, Birmingham, Blackpool, Glasgow, and Edinburgh, where free treatment and accommodation sufficient for a married man and his family are to be provided for 6s. 6d. a week.

### *London Statue of Mr. Wilson.*

At a meeting of the committee of the newly formed Anglo-American Society it has been resolved that the first act of the society should be to arrange for the erection of statues of Washington and of Lincoln, already most generously offered to this country from America, and further to invite President Wilson to honour the society by allowing them to arrange to have his statue, by an eminent sculptor, set up in London simultaneously, as a memorial for all time of his distinguished services to humanity at the time of the great war.

### *A Willett Memorial.*

It is proposed to erect a public memorial to the late Mr. William Willett. It is suggested that the memorial should take the form of a clock tower; any balance in hand being applied for the benefit of disabled sailors and soldiers. The Duke of Connaught has given his name as patron of the scheme, which is supported by the Prime Minister and many other public men. Donations will be received by the hon. treasurer, Lord Carnock, at 14, Holbein Place, Sloane Square, S.W.1, or cheques may be paid in to the "Willett Memorial Fund" at the London County and Westminster Bank, Lower Sloane Street, S.W.1.

### *Forthcoming Leeds Exhibition.*

Leeds Civic Society have made arrangements for holding an exhibition at the Leeds Art Gallery during the first three weeks of December. The exhibition, the opening ceremony of which Mr. Neville Chamberlain has been asked to perform, will illustrate the various means to be adopted in the fulfilment of the "city beautiful" idea. There will be exhibits in connection with house planning, town planning, and internal fittings of small houses; models of children's playgrounds in the parks; photographs of interesting old buildings, and other picturesque buildings, along with records of city features which, in the opinion of the society, ought to be retained; and lectures on such subject as smoke abatement, and the regulation of street traffic.

### *Tenants and Rates.*

Judge Bray, at Brentford County Court, has given a judgment affecting over a hundred tenants of houses in the West of London. A tenant at Chiswick who had habitually paid eight shillings weekly for his house, free of rates, was given

notice by his landlord in September that with a reduced rent of six shillings and fourpence he must now pay the rates. The change under the conditions of the moment was slightly favourable to the tenant, but the Chiswick District Council making a supplementary rate, and also calling for payment before Christmas, it was urged that the tenant suffered hardship. His Honour held that the terms were less favourable to the tenant and that the notice given by the landlord was bad in law, under the last Payment of Rents Act.

### *Rebuilding the Verdun Battlefield.*

The work of restoration on the battlefield of Verdun has been entrusted by the French Minister of the Interior to the War Victims' Relief Committee of the Society of Friends. It will probably take fully two years. Much of the land is poisoned with gas shells, and much covered with concrete *débris*, while the inhabitants since 1916 have been scattered in many parts of France. The Mission has a scheme for rebuilding the shattered homes from the ruins of the battlefield. It is proposed to make concrete of the fragments of ruined houses, reinforced with strands of barbed wire. First a concrete floor will be laid; around it the sides of the house will be moulded in frames, and finally the whole house will be plastered over with cement and thus made solid and weather-proof. Gangs of workmen, moving from village to village, will put up these new houses. In some cases the very foundations of villages have been erased, and here new villages on garden village lines will be planned. The peasants whose homes have been damaged are entitled to an indemnity, but in the meantime the Mission are accumulating furniture, tools, pots and pans for them, which will be paid for later.

### *A New Auction Mart.*

Questions arising out of the recent sale of the Mart were discussed at a meeting of London and country auctioneers at the Auctioneers' and Estate Agents' Institute, Mr. W. H. Wells, the president, in the chair. Mr. Alfred Moore proposed the formation of a small committee to consider the question of forming a new mart, if possible in a central position, preferably in the City. He hoped that in time the Auctioneers' Institute would be rehoused in a more convenient place, and provide accommodation for sales. But that would take some years to accomplish. Mr. Herbert Daw seconded, suggesting that the Bank of England should be asked to postpone taking possession of the upper part of the Mart building until the auctioneers could secure other accommodation; and Mr. B. I'Anson Brach maintained that it was essential that the new mart should be in the City. He had for a long while hoped that the Institute would eventually provide an auction mart as part of its premises. Replying to Mr. How, the chairman said the total annual income of the Mart had fallen from £4,873 for rooms, and £485 for posters, in 1909, to £2,104 and £225 during the first ten months of the present year. Before the war the income averaged £5,000 a year. Mr. J. Seagram Richardson said the existing Mart had been sold for a sum representing £32 or £33 a square foot for the site, exclusive of the buildings; but there were suitable sites in the City at £12 or £14 a

square foot. Sir James Boyton thought that if the new mart could form part of some future building of the Institute was a worthy object to aim at. Howard Frank said that, pending other premises being obtained, his firm would be pleased to welcome any auctioneer who had a difficulty in getting accommodated to Hanover Square, and without a charge. It was decided to refer the question to a committee, and to convene another meeting when its report had been received.

### *Stained Glass Windows for St. Alban's Abbey.*

The memorial to the Very Rev. Walter John Lawrance, D.D., first Dean of Albans, has now been completed by the insertion of two stained-glass windows in the eastern walls of the retro-choir at entrance to the lady-chapel. The first portion of the memorial, consisting of a tablet and bust, was erected a little over a year ago. A faculty has been obtained for filling the north-east window of the nave of the cathedral with stained-glass presented by the family of the late Thomas Kent (for forty-six years church warden of the Abbey parish), to the memory of their father and mother, and of two brothers who have fallen in war.

### *Jubilee of the Institution of Chartered Surveyors.*

The fiftieth anniversary of the formation of the Surveyors' Institution occurs this month. There are now 1,000 members, representing all branches of estate management, including military and Colonial surveyors. The number of candidates examined has fallen owing to war, and the normal increase of membership has consequently not been maintained; the roll included nearly 5,400 in 1914. Some 2,420 members have served with the Naval and Military Forces during the war, exclusive of those engaged in public services of a non-combatant nature. Of those on active service, 247 have lost their lives. The honours won by members include one C.B., three C.M.G., M.V.O., sixteen D.S.O., one D.S.C., Bars to M.C., 104 M.C., three D.C., one M.M., one M.S.M., one Order of John of Jerusalem, and various foreign Orders. In addition, civil recognition for war services has been gained in at least thirty-eight cases. The president in the jubilee year, Mr. John H. Oakley (Messrs. Daniel Smith, Oakley, and Garrard), a grandson of one of the founders of the Institution, and his father, the late Christopher Oakley, occupied the chair in 1897. The present premises of the Institution, designed by Mr. Alfred Waterhouse, R.A., in 1898, have since been extended, and accommodate the forensic museum and geological collections. The designation "Chartered Surveyor" has been sanctioned for use by Fellows, and an Order of the Privy Council, and examinations are recognised by the Service Commissioners and other public authorities. Scholarships have been founded by the Institution at Oxford, Cambridge, and elsewhere, and substantial grants made to the Department of Agriculture at Cambridge University. Among the statutory powers conferred on the Institution is that of the nomination of a surveyor to serve on the Tribunal of Appeal under the London Building Act.



## ARCHITECTS' MEMORIAL SERVICE.

Memorial service for the members of architectural profession who have died in the war will be held at St. George's, Hanover Square, at 12.30 p.m. on Wednesday, December 4. The service will be conducted by the rector, the Rev. W. Thicknesse.

## R.I.B.A. TRANSACTIONS.

At the first general meeting of the R.I.B.A., 1918-1919, held Monday, December 4, Mr. Henry T. Hare, President, in the chair, the Hon. Secretary announced that since the last meeting intimation had been received from the following members had been in action: Lieut. Charles Taylor, Royal Warwickshire Regiment; Lieut. William Victor Lawton, Royal Engineers, Student; John Douglas Watt, Associate; Lieut. James Cable, Royal Garrison Artillery; Lieut. Charles Herbert Hart, Royal West Kent Regiment, Associate; Lieut. Thomas Henry Chalkley, Royal Gun Corps, Student; Wilfred Gorrington, Associate; Private Gilbert Frank Hookway, Cambridgeshire Regiment, Licentiate; Lieut. Alfred Wood, Royal Engineers, Licentiate; Capt. John Algernon Edmund, Australian Division Pioneers, Associate; Major James Mitchell White, Royal Engineers, Fellow; and Horace V. W. Pite, Hampshire Regiment, Student.

The motion of the Hon. Secretary, it was resolved that the Institute's deepest sympathy for the loss of these members be expressed on the minutes, and that a message expressing members' sincerest sympathy and condolence be forwarded to their relatives.

Note of sympathy and condolence was passed to Mr. B. J. Capell (A.) and C. H. Sampson (F.), each of whom recently lost a son in the war.

The decease was also announced of the following members: William Albert Pax-Clarkson, Associate, 1890; Charles King, Licentiate, 1911; Joseph John Stubbs, Associate, 1912; Walter John Bond Barker, Licentiate, 1911; Edwin Licentiate, 1911; Thomas Edward Ray, Licentiate, 1911; Robert Rams, Associate, 1887, Fellow, 1896; John Wadling, Associate, 1865, 1888.

A formal announcement was also made of the death of Cecil Claude Brewer, Pugin, Godwin Bursar, and Fellow, and the expressive of members' sincerest condolence was passed to his widow.

### Forthcoming Business Meeting, December 2.

The third general meeting (business) was held Monday, December 2, 1918, at 12.30 p.m., for the following purposes:

To proceed with the election of candidates for membership [the names and addresses of the candidates and the names of the proposers were published in the R.I.B.A. "Journal" for October, and candidates' names are again printed in the current issue.

To President to move the adoption of a resolution put forward by the Council to introduce a Bill in Parliament to amend the law relating to the acquisition of light. The draft Bill is as follows:

## AN ACT TO AMEND THE LAW RELATING TO THE ACQUISITION OF LIGHT.

1.—(1) After day of , 19 , a right to the access and use of light to or for any building shall not be acquired by the mere enjoyment thereof for any period of time, and no presumption of a grant of a right to the access and use of light shall arise or be made by reason only of the enjoyment of such access and use for any period.

(2) This section shall not apply to any right to the access and use of light which shall have become absolute and indefeasible on or before the day of , 19 .

2. Section 3 of the Act 2 and 3 William IV. c. 71 is hereby repealed as from the day of , 19 , but such repeal shall not revive any custom referred to in that section or bring the right to the access and use of light to or for any building within the provisions of Section 1 of the said Act.

3. This Act shall not apply to Scotland.

4. This Act may be cited as The Acquisition of Light (Restriction) Act, 1918.

## THE REGULATION OF WAGES.

In the House of Lords last week, Viscount Sandhurst, Lord Chamberlain, moved the second reading of the Wages (Temporary Regulation) Bill, which had come up from the Commons. It imposes upon employers an obligation to pay prescribed rates of wages in certain trades during a period of six months after the measure shall have become law.

Viscount Midleton remarked that the Bill would stereotype greatly increased rates of wages. Many people regarded the raising of wages as an admirable result of the war, but if abnormally high rates of wages were maintained it would be impossible to get employment for the returning troops. A man could be forced to pay a certain wage, but he could not be forced to employ workers. The Bill would also tend to maintain the increased cost of commodities, so far as they were affected by wages. It would be more equitable to restrict the period during which the Bill would be operative to three months. Lord Stuart of Wortley said that transport agents and railway companies had been permitted for the period of the war to increase their maximum charges. It would be inequitable that they should be compelled to continue to pay the enhanced rates of wages for six months if their power to charge enhanced rates were restricted to a shorter period. Viscount Chaplin said when the minimum price for agricultural wages was fixed at 25s. a week a pledge was given that during the war no Agricultural Wages Board would be set up. He complained that that pledge had been entirely departed from. If the present rate of wages were to be permanently continued, it would be impossible to make the great increase in our food which on the highest authority they were told was vital to the safety of the life of the nation.

The Lord Chancellor stated that the Bill was only intended to cover a transition period, it being universally recognised that something of the kind was necessary. Before this Bill appeared in Parliament it formed the subject of careful consideration. The Employers' Association and the leading trade unions representatives conferred with the Prime Minister, and committees were appointed to deal with the matter. They made suggestions, which were

largely embodied in the Bill. It was not the object of the measure to stereotype the wages that happened to be recognised in any industry on November 11, there being power of arbitration provided.

The Bill was read a second time.

## WAR MEMORIALS.

It will be noticed that in all but two instances the schemes reported below relate directly to building:

### Wolverhampton.

It is proposed to erect at Wolverhampton a public hall, costing £60,000, as a memorial to those who have served in the war.

### Poole.

At Poole it has been decided that the Mayor and Mr. Haskett-Smith should take action with a view to getting suitable sketches and designs for both a memorial and a convalescent home.

### Grimsby.

Grimsby Hospital Committee have decided to build a convalescent home as a war memorial. The project will cost £50,000. The Marquis of Lincolnshire has offered a site of thirty-eight acres at Humberstone free of charge.

### Alfreton.

Alfreton Urban District Council has expressed appreciation of Captain R. C. A. Palmer-Morewood's offer of a site and £500 towards the cost of a cottage hospital for Alfreton and district as a memorial to men from the district who have fallen in the war.

### Wombwell.

Wombwell Urban Council have decided to form a War Memorial Committee and to hold a public meeting for the purpose of considering the question of a suitable war memorial for Wombwell. The suggestion was made that a hospital be erected in Wombwell for the special purpose of dealing with accident cases from the local collieries.

### £50,000 Gift for War Shrine.

As briefly recorded last week, Mr. S. J. Waring, to commemorate the cessation of hostilities, has asked Sir Edwin L. Lutyens to prepare a new design for a permanent shrine for Hyde Park which shall symbolise the victory of right over might and the triumph of justice. Mr. Waring is anxious that this memorial shall be in every way fitting to the great event which it will commemorate, and he is informed that it will cost him, roughly, £50,000.

### Church Memorials.

The members of the congregation of St. Peter's, Stockton, have decided to erect as a war memorial a representation of Calvary. It will be of Portland stone 15 ft. in height, and will stand outside the west window of the church, facing Yarm Road. There will be a suitable inscription around the base, and the names of those in whose memory it is erected will be inscribed either on the memorial itself or on a separate tablet on the wall of the church.

The Church Council of St. James's Church, Muswell Hill, N., have decided to erect a parish hall and provide an organ case, chancel screen, and reredos in the parish church as a war memorial.



## HOUSING REPORT OF THE TUDOR WALTERS COMMITTEE.

(Concluded from page 244.)

*Conversion of Existing Buildings for Working-Class Occupation.*

76. In England and Wales the conversion of existing large houses into flats suitable for working-class dwellings is only likely to be successful to a limited extent.

77. The conditions in some parts of Scotland are more favourable to such conversions, as also to the combination of existing tenement-houses containing one or two rooms to form a reduced number of houses or flats each containing a larger number of rooms.

78. The renovation and remodelling of old middle-class houses of moderate size—which have ceased to be required for their original purpose—for letting at reasonable rents to large families, affords an alternative to demolition which should be favourably considered.

79. The conversion into hostels of large houses, no longer occupied by the class of tenant for whom they were erected, might be considered for certain areas.

80. For purposes of such conversions some additional powers in reference to restrictive covenants, etc., may be required.

81. In rural areas it may be found more economical to reconstruct a limited number of cottages which have fallen out of occupancy because of defects than to build new ones in all cases.

*Communal Services.*

82. The supply of hot water from a central station to housing areas is very desirable; some experimental schemes on an adequate scale should be encouraged.

83. Central washing establishments, to relieve the individual house from at least the sloppy and steamy parts of the wash, are desirable, and in conjunction with the central hot-water supply might with advantage form part of some of the experimental schemes.

84. Encouragement should be given by provision of sites, etc., for the development of communal institutes, clubs, open spaces, playgrounds, and other conveniences, all of which may relieve the pressure on the house space.

*Economy in Construction.*

85. Final conclusions cannot be reached or recommendations made in respect of a number of important materials and methods of construction which we have considered, until we have the report on the various researches which have been undertaken at our request through the Department of Scientific and Industrial Research.

86. We have found all costs, both actual and relative, so varied and uncertain that little useful comparison of actual costs of different materials and methods could be made.

87. The climatic conditions throughout the United Kingdom are so varied that any recommendations in reference to the weather-proof character of a house depend upon locality. While we anticipate considerable progress both in the use of new materials and the adoption of new methods in the building industry, we recognise that the greater aptitude of the workmen when employed in ways to which they have been accustomed, and the absence of experience of the newer systems on the part of the contractors, will cause such progress to be gradual, and that the greater part of the house building immediately after the war will probably be on well-understood con-

structional lines, subject to substitutions for materials or methods which have become scarce or costly as compared with pre-war conditions.

88. In view of such changed conditions and of the abnormal demands on all means of transit likely to be made in the period following the end of the war, every effort should be made to use local materials so far as they may be suitable and available at reasonable cost, long distance conveyance of materials for the sake of small differences of character or cost should be avoided, and local materials and methods of construction which under pre-war conditions were giving way before the competition of those from outside should be reconsidered in the light of post-war conditions.

*Standardisation.*

89. Standardisation of types, dimensions, and parts, if limited in each case to the degree which will secure substantially reduced cost without sacrificing other important considerations, will lead to economy, and the necessary arrangements should be made to take advantage of it; the idea that cottages can be standardised and produced to stereotyped patterns is based on false analogy, and if adopted would not lead to real economy.

90. Standardisation of design should be limited to the adoption of a series of type plans to suit the chief aspects and arrangements of accommodation. Such type plans will serve for purpose of comparison as to costs, quantities of materials and labour, general convenience, etc., and should form the basis of designs adapted in detail to sites and conditions.

91. A few standard figures should be fixed for certain dimensions, such as the widths of roof spans, the sizes of the chief rooms, the width and proportion of stairs, etc.

92. A series of standard sizes for windows, window panes, doors, etc., could be adopted without detriment to the design of the houses and would lead to economy in production and render practicable the adoption of ferro-concrete or steel frames.

93. A limited number of patterns of ranges, grates, baths, sinks, and other fittings, also of all kinds of ironmongery should be adopted and standardised with a view of obtaining a high standard of quality at the low cost which large scale production should secure.

*Foundations.*

94. Where a concrete base of sufficient strength is used, footings to brick walls may be dispensed with. Greater use should be made of concrete foundation walls up to ground or ground-floor level.

95. A rigid concrete foundation wall should be adopted when thin concrete or other slabs are used for the upper walls.

96. On suitable subsoils local flat-bedded stones which will make a good foundation should be permitted in place of concrete footings.

97. In mining areas or where the subsoil affords an unreliable foundation a reinforced concrete raft may be found to be effective and economical.

*Walls.*

98. Walls should be provided which have sufficient permanence, stability, and

weather-proofness for the locality degree of exposure, and which are liable to excessive condensation; materials or methods of building should be considered in relation to all requirements.

99. Local knowledge and experience should largely be depended upon to select materials sufficiently durable.

100. Special care should be taken as to the probable shortage of bricks; other materials to see that inferior qualities are not used for exterior work.

101. In the case of all solid walls, impervious external surface or an adequate thickness of nearly impervious material should be required to secure a wall will remain dry on the inner surface in the case of all walls, and especially of walls or those composed of material which is a good conductor of heat, the inner face should be protected against excessive condensation by the use of a sufficiently porous and non-conducting lining plaster. Where such conditions can be reliably and economically be secured solid wall, hollow wall construction should be adopted.

102. Hollow walls should be so constructed:

(i.) That the two parts are tied together firmly and permanently with vitrified brick, or metal ties, thoroughly protected against rust and incapable of conveying damp across the cavity.

(ii.) That the cavity is carried through three courses below the damp-course.

(iii.) That the lintels or heads of doors and window frames are protected from the accumulation of moisture in the cavity.

(iv.) That at the jambs of all openings the cavity is stopped with slate in case of vitrified tile, or other impervious material.

(v.) That the cavity is made inaccessible to vermin, particularly from the inside of the house.

(vi.) That the cavity is ventilated sufficiently to prevent stagnation of air but to an extent which would detract from insulating value.

103. Hollow brick or terra-cotta blocks afford a promising material for walls when used for the ground storey care should be taken to see that they are strong enough to resist breakage by accidental mischief.

*Concrete.*

104. In reference to the use of concrete for walls in house building, we arrived at the following conclusions:

(i.) That where bricks are plentiful there is not likely to be any great saving by the use of concrete.

(ii.) That in localities where bricks are not produced and where a suitable alternative material is available, concrete, if adopted on a sufficient scale, is likely to prove an economical building material.

(iii.) That, provided proper precautions are taken, concrete affords a suitably durable material for the construction of houses.

(iv.) That the chief dangers arise from the imperfect grading or mixing of materials, the use of materials containing sulphur, lime, salt, or other impurities, the use of blocks or slabs which have not allowed sufficient time to mature, and the use for the inner surface of mixture



vious and too good conductors of heat, resulting in condensation or sweating.

(i.) That further investigation into this matter is required to determine the quality of different aggregates and of concrete made from them, especially in reference to the safe use of such aggregates.

(ii.) That in whatever form concrete is used, it is important that ample provision should be allowed for them to mature before they are built into the walls.

(iii.) That although many alternative methods have been used with success, and the promise to prove increasingly valuable with further development and experience, the simplest and most reliable method of using concrete for the external walls of dwellings is in the form of slabs built up as complete cavity walls, the inside slabs being weather-proof, the outside slabs being sufficiently porous and conducting of heat to discourage condensation.

(iv.) That the inside slabs of cavity walls, having to carry the main weight of the building, and being often composed of concrete of less strength than the outside slabs, should, to give adequate strength, be of greater thickness than is required for the outside slabs, and that a thickness of 4 in. is sufficient for two-storey buildings requiring further investigation.

(v.) That where the external slabs are made of themselves sufficiently weather-proof, the wall should be rendered in situ or coated with rough-cast.

(vi.) That the best method of securing weather-proof concrete is to use good impervious aggregate properly graded and thoroughly mixed; that some of the specifications for waterproofing concrete may be of use to correct failures, but that it is better to trust to good materials and good handling.

(vii.) In districts where good aggregate is relatively more available than brick or other building stone, concrete construction should be considered as an alternative.

(viii.) Encouragement should be given to more experiments to test the more promising methods of using concrete on a sufficiently large scale to prove their economic value as well as their efficiency.

#### *Substitutes for Timber.*

(i.) On the ground storey there is no difficulty and usually little or no extra cost in replacing wood-joist floors by those of solid concrete.

(ii.) For upper floors good and efficient substitutes for timber are available, many of which can be used without centering or shoring; some of the best are composed of hollow brick blocks or hollow concrete blocks suitably reinforced; unless produced on a large scale can considerably reduce the cost of these, they are not likely to be less costly than timber, but they possess certain advantages as they are fire-proof, vermin-proof, and free from shrinkage.

(iii.) With the greater use of solid floors, the further development of floor coverings which can be laid *in situ* is desirable, and experiments which are being made suggest that a composition floor covering suitable for working-class dwellings may be used.

(iv.) Floors of granolithic finish, tiles, or concrete laid on concrete may be used to advantage in suitable parts of the building.

(v.) Such timber and boarding as may be available from the wooden huts, etc., erected during the war are more likely to

be serviceable for rafters and roof boarding than for any other part of the dwellings.

112. Flat roofs of concrete or hollow brick of a similar construction to that referred to in 108 afford a substitute for timber in places where such treatment would be appropriate.

113. Flat roofs when finished in concrete, without further coating of asphalt or other impervious material, have frequently not proved waterproof; the cost of such coating absorbs practically all the saving which might otherwise result from this type of roof.

114. Reinforced concrete roof members and slabs afford another alternative construction which has been used in various forms, but sufficient experience has not yet been gained to enable these methods to be judged from the point of view of cost.

115. Steel roofs, if made in large quantities and to standardised spans, would afford a practicable substitute for timber which might under such conditions prove economical.

116. Steel casements, especially if the adoption of certain standardised sizes make production on a large scale possible, promise to be an economical substitute for wood.

117. Reinforced concrete window-frames with steel sashes may be used in place of wooden frames and have several advantages; under certain conditions doors and frames of similar make might be serviceable.

118. Concrete or plaster slabs should generally be used in place of studded partitions.

119. For lintels, plates under joists, or other binding pieces, reinforced concrete is better than timber, and frequently no more costly even with normal prices.

120. Concrete stairs afford a substitute for those of timber.

#### *Slater and Tiler.*

121. For pitched roofs, we are unable to recommend any covering better or less expensive than slates or tiles.

122. Greater freedom allowed to the contractor as to the size of slates he may use would sometimes lead to economy of material at the quarry and reduction in cost.

123. Experience in Scotland and in exposed situations indicate the desirability of using roof boarding or sarking and sometimes also felt under slates and tiles.

#### *Carpenter and Joiner.*

124. Special precautions should be taken against the use of imperfectly seasoned wood and against dry-rot, in view of the extra risks which after-war conditions may entail.

125. Alternative sources of timber supply to those most commonly used are available, and economy might result if full and reliable information were accessible to architects and timber users generally.

126. Greater consideration for market sizes, and greater freedom to substitute scantlings of equivalent strength though slightly differing in dimensions, would lead to economy.

127. The enhanced value of timber increases the importance of a more scientific use of this material to secure strength and rigidity.

128. Suitable standardisation of sizes of doors, windows, stairs, and other joinery parts, coupled with production on a large scale, and the greater use of templates for sizes and fixings, would lead to economy in manufacture and erection. It is desir-

able that a few alternative standard sizes should be worked out and adopted for such parts.

129. For cottage building, doors of different widths should be made to one height.

#### *Ironmongery.*

130. It is desirable to select certain patterns of ironmongery fittings, and standardise them for manufacture on a large scale. In selecting the standard patterns, efficiency, convenience of handling and durability should be mainly considered.

131. Where iron fittings are used the best-known means of rust-proofing should be adopted.

#### *Plasterer and Rough-Caster.—In Scotland Rough-Cast Scheduled under Slater.*

132. A plaster is desirable which, while being stronger and less liable to failure than ordinary lime plaster, is not so likely to promote condensation or to be so good a conductor of sound as many of the patent plasters have proved to be.

133. The choice of materials and their thorough mixing will repay greater attention than has often been given in cottage work.

134. Plaster slabs may sometimes be used with convenience and their use may lead to despatch.

135. Where rough-cast or plaster is relied on to secure a weather-proof external face special care must be taken with both the materials and method of use, especially in exposed positions.

#### *Smith and Founder.—In Scotland Scheduled under Mason or Plumber.*

136. For rain-water goods a minimum thickness of 3-16ths of an inch should be required, guttering should be strengthened with a beaded edge, and suitable sizes and patterns should be adopted as standards so that increased expense may not be involved in using these stronger patterns.

137. Greater use should be made of rust-proofing processes for metal goods.

138. A few patterns of ranges and grates should be standardised; they should be made of sufficient strength to be durable, and in numbers large enough to secure reduced cost.

#### *Electrician.*

139. Electric light as compared with other illuminants has the great advantage of not vitiating the atmosphere, and tends to economy in maintenance.

140. A separate service connection to each house from the street main does not offer advantages commensurate with the cost, and a common cable for each group of houses would result in economy.

141. Expensive and elaborate wiring systems are not necessary for cottage use.

142. A large-scale wiring plan for each type of cottage would lead to economy in the installation and save cutting away and making good.

#### *Plumber.*

143. No completely satisfactory substitute for lead in flashings, etc., has been suggested.

144. Economy would result from the greater use of galvanised iron pipes in place of lead.

145. Provision should be made for removing from circulating pipes near the boiler any deposit from hard waters.

146. Greater care in the protection of pipes and fittings from frost would lead to economy in maintenance.

147. The large-scale plan suggested above for electric wiring, if adopted also



for all plumbers' piping, would lead to economy in both first cost and maintenance.

148. The adoption of standard taps and fittings and also standard patterns for baths, sinks, w.c's, etc., would lead to economy in manufacture and renewals.

#### *Painting.*

149. Painting deserves greater care and study than is usually given to it to secure the most suitable materials and pigments for the different purposes and situations.

#### *Supply of Materials and Labour.*

*Note.*—The Building Materials Supply Committee of the Ministry of Reconstruction is dealing with the question of supply of materials.

150. There will be urgent need for at least 500,000 houses to be erected as rapidly as possible after the war to make up arrears of building, in addition to the normal annual supply.

151. A systematic housing survey is desirable to enable an accurate estimate to be formed of the extent and degree of urgency of the needs of the various districts.

152. To meet the housing demands a very substantial proportions of both the materials and labour available will be required.

153. As a guide to the amount of labour, it may be taken as approximately accurate to state that 421,200 men would be required to build 300,000 houses in one year.

154. In any priority arrangements that may be adopted in regard to labour or building materials a privileged position must be given to housing if the necessary despatch in making up arrears is to be secured.

#### *Organisation.*

155. Considering the uncertainty as to the price and adequate supplies of materials, the rates of pay, efficiency, and numbers of the different classes of workers which will be available immediately after the war, special methods of organisation and contracting will need to be adopted to secure economy and despatch. The contractor should be relieved of risk in connection with matters which are outside his power to control, by embodying in the schedules or contracts the rates of wages and prices of the chief materials on which they are based, by providing for recording and allowing by way of variation such alterations in rates and prices as may take place during the progress of the work, by recognising that exceptional circumstances may interfere with the due carrying out of the contract, and by making provision in the latter for such cases.

156. The State might with advantage facilitate arrangements for the supply of certain of the chief material and standardised fittings at fixed prices.

157. The work should be carried out generally on lump sum contract, but where it is thought that effective local competition for lump sum tenders is not available, or where reasonable prices are not obtained by competition, an effort should be made to arrive at a reasonable schedule of prices by agreement.

158. There should in all cases be a schedule of prices on which to determine the cost of variation from the type plans of individual plans and groups. The schedules should as far as possible be prepared in a standard form to facilitate easy comparison and supervision. Considering the necessity for separating items of labour from those of material to deal with variations of rates and prices, the schedules should be prepared for

materials as far as possible in the form in which they would require to be ordered, and for the labour items in each trade separately, to facilitate comparison between different types and different schemes.

159. There should be close co-operation between the Local Government Boards acting through their housing commissioners, and local authorities and others erecting houses, with a view to comparing the prices and schedules of different types of house in different places and districts.

160. Every housing scheme to be submitted to the Local Government Boards for approval should be prepared by a competent architect.

161. Thorough up-to-date organisation of the work should be encouraged, including the proper mapping out of the order of development, the adoption and keeping up-to-date of an efficient system of costing and accounting and the use of suitable labour-saving appliances.

162. With a view to decasualising labour as far as possible, the building programmes should be so prepared and co-ordinated as to regularise employment.

163. The Housing Departments of the Local Government Boards should assist in the efficient organisation of the work:

(i) By securing standard forms of specification, schedules of materials and labour, and encouraging their adoption.

(ii) By making a careful study of the items of material and labour required for a number of typical houses and of the rates and dates of delivery and completion which must be secured to maintain satisfactory progress, and issuing statements of results for the assistance of contractors and those supervising the work.

(iii) By securing an efficient scheme of costing and accounting, and encouraging its adoption in all cases where a satisfactory scheme is not already in regular use.

(iv) By comparing labour costs on similar types of houses in different places to establish a fair standard of work, and the costs on different types of design and methods of construction to establish which are most economical.

(v) By collecting valuable information and experience from each of the different schemes and making it promptly available, through the housing commissioners, for all other schemes.

164. The Local Government Boards should appoint sufficient technical representatives as district housing commissioners to ensure by advice and co-ordination the carrying out of the Government's housing programme with economy and despatch, and the Boards should be suitably equipped for handling the work in such a manner as to enable the best results to be obtained.

Our thanks are in a very special degree due to Mr. E. Leonard, the Secretary of the Committee, for the ability and ceaseless diligence with which he has carried out his arduous duties. Mr. Leonard's technical knowledge and intimate acquaintance with Housing problems have materially assisted the deliberations of the Committee.

[The Report may be obtained, price 1s. net, from H.M. Stationery Office and its various London and provincial branches, or may be ordered through newsagents. It is, on the whole, the most practical report that has yet been issued on the housing question in England, although the reports from Scotland may fairly claim to be equally useful. It might, however, have been, with advantage, considerably shortened. As it stands, it rather suggests a specification.]

## THE COST OF NATIONAL FACTORIES.

Among the subjects dealt with by the Select Committee on National Expenditure in their final report for the present session are the financial position of National Munition Factories, the motor transport depot at Slough, and organisation of the Royal Dockyards. The Committee mention that, from the date of their first appointment in July, 1917, they, together with their eight sub-committees, have held 288 meetings, and have examined 402 witnesses. All their numerous recommendations have been unanimous.

National factories for the production of munitions, either instituted by the Ministry of Munitions or taken over by them from private owners, now number 302. In some cases the original capital expenditure and the whole working cost are borne by the Ministry. The factories vary in importance from small saw mills and boxmills to the Propellant Factory at Gretna, the capital cost of which was nearly £9,000,000. At nearly all the larger factories, the buildings, as well as the plant, are the property of the Ministry, while in some of the smaller cases the premises have been hired. The total capital expenditure on 257 factories amounted to £52,431,085. Further expenditure since that date on these factories and on others which were begun subsequently is estimated to amount to about £12,000,000.

In the opinion of the Munitions Committee the policy of instituting national factories has, on the whole, borne good fruit. Massed production on a large scale, where it has been allowed to clear run, has undoubtedly made economy in production. The profits, estimated by comparison of their costs with the contract prices ruling at the various dates, show that in a large number of cases the factories have more than paid for themselves. Further, the existence of national factories for certain products has enabled the Ministry to arrive at a fuller knowledge of manufacturing costs and possibilities, and has helped them to secure reductions in the prices asked of contractors.

Apart from the national factories, the Ministry have incurred heavy capital expenditure at the works of certain firms for the production of munitions, retaining the ownership of the plant, and, as a result, sharing the benefit of economical production. In many of these contracts in the early days insufficient record was taken to secure complete inventories and records of Ministry property in all these factories. Measures are now also being taken to secure a full audit of the cost of production in these cases, but in them, generally in the numerous other cases where payment by the Ministry has been made dependent upon the cost to the contractor, considerable opportunity for dispute and uncertainty exists.

The Committee accordingly recommend that for the settlement of these and numerous other questions which are likely to arise concerning claims made on, or payments due to, the Ministry the Government should appoint a liquidator or liquidators, who should not be connected with or confined to the Ministry of Munitions, but should act for all the Departments making war purchases; while a permanent committee should be appointed to whom the liquidator might refer cases requiring special investigation.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

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## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in assisting the efforts of the Government Paper Controller to eliminate waste. This they may do in either of two ways—*

- 1. By placing a direct subscription for the Journal with the Publisher, or*
- 2. By placing with a newsagent an order for its regular delivery.*

### Labour's Fantastic Manifesto.

In the Labour Manifesto which was published in the newspapers last Thursday recourse was had once more to the rather over-worked simile of building, from which, however, there is apparently no escape in a time of reconstruction. "Labour's programme," we are told, "is designed to build a new world, and to build it by constitutional means." Formerly we were full-fed with the fine phrase "empire-building." Now we are grown cosmic, and must needs build a new world. As a modest beginning we are to build a million good houses; for Labour demands a substantial and permanent improvement in the housing of the whole people. At least a million new houses must be built at once at the State's expense, and let at fair rents, and these houses must be fit for men and women to live in." This is in one respect a shade more modest than the unlimited demand for houses for heroes. But a million houses at the State expense! A mere trifle of a hundred million pounds will no doubt be easily forthcoming, now that, in statistics, we have got well past "thinking imperially," and are getting accustomed to thinking cosmically. A rather awkward question arises once again—Who are "the whole people"? Does the phrase imply all His Majesty's subjects? If not, why not? If it does, is the State to build all our houses, large and small? To this last rather provocative question the answer to be anticipated is, "Yes, certainly the State will build them, but not large and small—only just medium, with no invidious distinctions; for why should one man have a larger house than another, unless, indeed, he has a larger family?" What a queer world it would be if the Labour Party had the rebuilding of it! We have visions of Blenheim pulled down to supply materials for an equivalence in houses comprising six rooms and a scullery. Architects had better make haste to get hold of the cottage-building, as apparently there will be nothing else to do; for as those million houses are to be built "at once," it is quite evident that for the next decade all the available labour and materials will be fully engaged in keeping pace with this modest demand. In justice it must be mentioned that "The Labour Party stands for the reconstruction of all war-time measures in restraint of industrial liberty, the repeal of the Defence of the Realm Act, the complete abolition of conscription." It stands also for land reform. Most of us are in favour of all these objects; the only questions are, how and by whom they are to be attained.

### How to Cripple Capital.

Quite charmingly and characteristically inconsistent is the demand for "the complete abolition of conscription" and the demand in a subsequent paragraph for a "conscription of wealth." Of course,

the word "conscription" is, in one instance or the other—perhaps in both instances—a glaring misnomer. Its use, however, in the Labour Manifesto, has an unpleasant suggestion of vindictive reprisal. It is an exhibition of bad taste, bad temper, and bad policy. It would appear that, to pay for the war, the rich are to be taxed extortionately, while capital is to be penalised to extinction. It is a dreary and depressing outlook, and we do not for a moment believe that so absurdly selfish a programme represents the mind of labour. Its signatories include several cranks, faddists, and fanatics whose fantastic public careers have brought little else but derision on and dissension in the Labour Party, or on that section of it which tolerates their leadership. Born destroyers as most of these leaders are, it were vain to look to them for sound constructive policy, and their talk of "rebuilding the world" is strikingly hollow and inept. Their right to speak for Labour as a whole is very dubious; some of the signatures suggest doctrinaire socialism rather than dock labour or any other sort of labour; and this curious phenomenon of unrepresentative leaders may in part account for the bad habit into which Labour has fallen of repudiating the agreements its leaders sign in its name. To repudiate this manifesto before it fails egregiously at the polls would be wise on the part of Labour; which, however, is not present to speak for itself. Its true voice will not be heard until the Forces are disbanded and the men return to their civil (more or less) occupations.

### Concrete for Cottages.

A point that we made when it was stated by Dr. Addison that national housing would require six thousand million bricks—namely, that there are many substitutes—has been amplified in a letter addressed by Mr. T. J. Clark to the "Sheffield Daily Telegraph." In concrete, he urges, the architect and the builder have ready to their hands material of superlative worth, "but whose value is only feebly appreciated by the vast majority." That is true in every particular. Even Dr. Addison, in making the announcement about the bricks, betrayed no knowledge of cement. Mr. Clark, answering the common objection that the concrete cottage is often unattractive in appearance, declares that when this disadvantage occurs, it arises from indifferent design, or want of knowledge as to suitable surface treatment, or from both. "It cannot be too widely known," he goes on, "that in design, colour, and surface texture, it is possible for the concrete cottage to be a structure of great beauty, harmonising with its surroundings, and such as to satisfy the requirements of health, comfort, and artistic taste." This, again, we believe to be entirely true. In last week's issue we reproduced Mr. William Dunn's description of some cottages at Chepstow which were designed by him in association with Mr. Curtice Green. Of these cottages the 1918 volume of "Specification" shows photographic views which strongly support Mr. Clark's contention that, architecturally treated, concrete is an excellent material for cottage-building, especially when machine-made blocks, with suitable face, are used. To save labour in laying, these blocks are sometimes made too large for cottages; and we take this to be one of the many instances in which economy may be bought too dear.



### War Memorial Schemes.

Many new memorial schemes have been announced during the past week. They mostly comprise building. The most important project is that of the Veterans' Association, who have propounded a scheme for an "Imperial Memorial," which is to include the erection and endowment of buildings for a "Veterans' Club," with at least 1,000 bedrooms, and a convalescent home for men discharged from the Forces. To carry out the project on adequate preliminary lines, the minimum sum of £1,000,000 will be required. Next in interest is the proposal for an Overseas Memorial—a kind of hostel for the use for all time of men and women from overseas. It is to be built in the heart of London as a war memorial. Glasgow University proposes a small chapel to be erected on the west side of the present buildings. The Leys School scheme has developed richly, the Memorial Fund now exceeding £32,000, on which a first charge of £20,000 has been made for the foundation of entrance and leaving scholarships in memory of those who have fallen in the war. It is now intended to secure such additional support as will provide for the erection of a memorial hall which would be a fitting commemoration of the part which has been played in the war by old boys of the Leys. Sir Aston Webb has designed such a hall, which, fronting on to the Trumpington Road, would constitute a striking architectural feature on the entrance into Cambridge. The additional amount which will be required is about £10,000. From our point of view there can, of course, be no possible objection to war memorials taking the form of useful—and we trust beautiful—buildings such as those contemplated in the above-mentioned projects; but we should feel more satisfaction in knowing that in each case there were adopted some means of distinguishing a memorial building definitely and unmistakably—possibly by a decorative tablet, but preferably by a group of sculpture.

### St. Paul's Preserved.

St. Paul's Cathedral, so often reduced to ruins in German accounts and pictures of their dastardly air-raids on London, has not only come through the ordeal scatheless, but is like to profit by it handsomely. Its immunity from enemy bombs has stirred within us that deep affection with which we all regard it, but which is apt to remain unexpressed until it is called into play by some extraordinary occurrence. St. Paul's was for years well known to be suffering from severe internal ailments, but the fund for curing them increased very slowly, in spite of incessant and most eloquent pleading. Cracked piers and sinking foundations, however, made but an unromantic appeal to the imagination: but when our illustrated newspapers reproduced from German periodicals and postcards pictures showing the dear old dome, the heart of mid-London, blown to bits by Boche bombs, our souls sickened at the sight. Remembrance of those lying German pictures has helped us to realise how great a calamity St. Paul's has escaped, and how glad we are that the cathedral stands intact. It was then remembered that the building was seriously threatened from within; and in the flush of gratitude for its survival of the enemy menace, no less than in the sudden and vivid perception of the preciousness of this treasure, wealthy citizens are subscribing liberally to the fund for rescuing the fabric from internal disruption. It ought now to be possible to obtain sufficient money to put and keep the fabric in thorough repair.

### Proposed Memorial to Major Halley.

Speaking of St. Paul's, our thoughts revert to an architect who loved it with more than common devotion, who studied it intensively, sharing freely with his brother architects the results of his investiga-

tions, and who, moreover, wrought reverently skilfully upon some of its decorative details. mean, of course, our late friend and colleague, Mr. J. M. W. Halley, F.R.I.B.A., who, as assistant to Mervyn E. Macartney, architect to the Dean Chapter, helped during several years to strengthen and beautify the building. Art-lover and dreamy idealist though he was, and the soul of gentleness, he nevertheless responded with alacrity to his country's call and as the rapidity of his advancement to the rank of major attests, the languid dreamer was immediately transformed to the brisk man of action. He became an efficient and intrepid soldier, meeting his death in circumstances that should, and perhaps will, be recognised by a posthumous decoration. Well aware of the supreme honour of a memorial in St. Paul's, and of the severity with which it must be reserved for supreme occasions, we nevertheless suggest that the Dean Chapter would be fully justified in accepting a memorial to Major Halley, because he had wrought in the cathedral, and because he had a strong affection for it, and had written about it, and because it can be said without exaggeration that he died as heroically as any warrior commemorated there; while the R.I.B.A. we feel sure, would deem it a privilege to provide a memorial. This is not a casual offhand suggestion. We are very serious in it, and feel sanguine of its adoption.

## ARCHITECTS' FEES FOR HOUSING SCHEMES.

THE following announcement is issued by the R.I.B.A.: In fixing the scale of charges for the development of land, or for housing schemes, a special arrangement will usually be required according to circumstances, but for ordinary cases the following are the charges:—

(a) Housing Schemes and Laying-out Estates.—For the preparation of a plan or scheme from existing maps, showing roads, building plots, and building blocks, and including conferences with officials of local authorities, but not including surveying, level contouring, or the preparation of detailed plans of buildings, the remuneration is as follows:—

	Per acre.	
For the first 25 acres .....	£2	2 0
On the next 275 acres .....	1	1 0
On the remainder .....	0	5 0

Minimum charge, 25 guineas.

(b) Roads and Sewers.—For preparing working drawings and specification of roads and sewers, obtaining tenders and advising on the same and in the preparation of contract, furnishing to the contractor one copy of the drawings and specification, general supervision as before defined, issuing certificates of passing and certifying the accounts, the charge is 1 per cent. upon the cost of the works. Should the works not proceed after the preparation of the drawings and specification the charge is 5 per cent. upon the estimated cost.

(c) Buildings in Housing Schemes.—In housing schemes the charge is 5 per cent. on the first twenty houses, 2½ per cent. on the next sixty, 1½ per cent. upon the remainder. This percentage covers ordinary variations in type of house and such minor modifications as are made to avoid monotonous appearance.

Where the local authority assumes responsibility for the supervision and carrying out of the work, the architect's fees may be reduced by one-third. This scale is necessarily applicable if the carrying out of the work is effected in instalments and consequently deferred over a long period of years.



## COSTS AND CONTROL.

BY C. H. B. QUENNELL, F.R.I.B.A.

the article published on August 28 last, attention was drawn to the danger of continually rising prices. It was pointed out how this has affected building trade, and made conditions in it chaotic. Much is this latter the case, that experienced men finding it wholly impossible to estimate costs with certainty, and an instance was given bearing on three approximate estimates of £6,000 and £10,000 were turned by the actuality of tendering into lowest price received of £13,000. The general increase of costs is easily traceable to the scarcity of work, and cannot be remedied now; the great danger, though, is that unless steps are promptly taken it may not be possible to do so later on. Unless we arrange matters so that the cost of building bears a reasonable relation to its real value, all the schemes of reconstruction which are so necessary for building up of our social life will be endangered: that good time which we hope is coming, when the men who have fought, can go back to the working-board will be indefinitely put off. So the situation is one of great danger; we have had an example recently of the police driven to strike by the economic necessity of so doing, if they were to be able to continue their existence. Very much the same has happened in other trades, and rises have been given with contingent advances in the price of the necessities of life. Then the maddening scramble starts all over again, excepting, of course, the protected and very poor—the widows and orphans, architects, and other people like them, who have the Trades Unions to help; all these go down the scale towards poverty, and we find Fellows of the Royal Institute of British Architects employed in Government Offices at a lower rate of pay than the builders' labourer.

Logically, there need not have been any rise in prices. It is only the scramble excited by greed which makes them up; the strong grab, and the weak and poor (like the poor F.R.I.B.A.) go to the wall. Rationing from the very start would have prevented

The writer of these notes, early in the war, was asked to serve his country, and became a special constable, and the hours of duty assigned to him were between ten at night and two in the very early morning. If the work was not inspiring it was distinctly fun and amusing in that one gained considerable insight into the ways of living of other men with whom one shared duty. One of the most interesting cases was that of a fellow special, a ship owner, who was financially distressed at the amount of money he was making. In those early days of 1914 and 1915 competition still continued its baneful course unchecked, and a man with ships was besieged by those who wished to charter them, and outbid one another in their endeavour to grab. The nett result was that the best man, like our friend, made far more money than his conscience agreed to as equitable, and all the rest of us paid the bill. The poor shipowner, who one particularly cold night had attempted the Japanese method of an unhappy despatch by disembowelling with his own truncheon, cried in his agony, "You order one desperate with your reproaches, but what would you do in my case?" Here was food for thought, because, though the average F.R.I.B.A. would have been saved any necessity for decision by having some sort of seizure at anything so unexpected as wealth thrust upon them, yet clearly the fact must be faced, that the jumble of modern life which keeps some men

poor, makes others rich almost against their own desire.

When rationing did come in it was too late to repair the damage, but introduced from the commencement of hostilities, it would have checked the rise in prices by the elimination of the incentive to grab.

It is this undoubted fact which makes one dubious of the new slogan, "Hands off industry after the war." Scramble was bad enough in its effect on normal conditions, but, introduced after the war, in abnormal times it might easily be disastrous; it is also a moot question whether the laws of supply and demand are not capable of being altered and made equitable. A parallel might be instanced in the case of railway development in the nineteenth century; here was another scramble against the general interest. Large fortunes were made at the expense of the community, with the result that all the rest of us ever since have had to pay the piper in heavy railway rates.

There is absolute need now that the country produce more food stuffs; we all hope that many of our fighting men, used to an open-air life, will go on the land, and not have to emigrate because they cannot do so. It is to the interest of us all that they should do so, and we, and they, must now pay high railway rates which will prejudice their chances of success, because back a long way in the nineteenth century, a small set of men said "Hands off thieving; don't stop the scramble."

As to the amount of control which will be necessary, and the type of people who may be expected to build.

A well-known surveyor said to the writer the other day, "You will be all right after the war, and kept busy designing houses for the people who have made money." He warmed to his theme, and said that down South we did not appreciate the real and happy facts; up North apparently blood money burns in the pocket of the plutocrat, and fingers jingle it and itch to spend. But if this were really so, and one hopes it is not, here is clearly a case for control; we cannot have competition for raw materials from such a quarter.

The actual provision of building materials will in itself be a tremendous problem. The devastated areas of France and Belgium cry aloud for bricks, cement, steel, and all manufactured goods. Our own stocks are depleted.

One would have liked to see far more being done in the development of all our own building materials. All over the country are brickyards, marble, stone, and slate quarries, which before the war had been allowed to go out of use through sheer laziness.

A case comes to mind of a house built in Inverness-shire. All the old buildings were roofed with very beautiful thick slate, which was the colour of a distant moor, and yet had been allowed to go out of use. It was a matter of great difficulty to persuade the local people to open up the quarry, but eventually it was done for the house in question. Here was real wealth neglected through sheer lack of grip. Any material which is at hand available for building will save carriage and help us to pay our debts. We do not need to import any materials, but may even hope to export some.

There will certainly need to be control of raw materials, because of the tremendous demand for them all over the world, and so far as our own are concerned we shall help ourselves, and the community at large, if as a trade we take an interest in their provision.

We have an enormous steel-producing plant, and



endeavours will have to be made to use its products as largely as possible. The steel-framed building, filled in with concrete, and sheathed with fine stones, or marbles, the wall only a few inches thick, might take the place of the elephantine structures with thicknesses according to the Building Act, cumbering ground of nearly priceless value. It was done in Vienna before the war, and we might think of doing it now instead of buying somebody else's timber. We shall be poor—very poor indeed. It will be a sounder policy from the commercial point to use our own steel. We may also properly hope for work in connection with new and better workshops, and here, again, as the necessity of repairing the material damage of the war is urgent, and a national affair, we do not want one manufacturer grabbing against another when the only result will be that we shall all suffer. Quite obviously there must be control here.

But the point need not be laboured, and the wisest course would be for us all to combine and see how best the business can be managed. It looks as if the first matter is the control of raw materials. The Food Controller early found that it was far more profitable for the community to regard itself as one large buyer than many small ones. Here the State will have to continue, or each Trades Council will be responsible for the supplies which their members will need. The producer would then be left free to get on with his work, excepting that under the scheme of the Whitley Councils there will be far more co-operation, and less damaging competition. A closer association with the working men, and a larger share of the rewards of industry to them, should result in happier conditions. Again, it means more than all this; to get back to a better England means a very considerable change of outlook. The nineteenth century turned us into a race of middlemen and shopkeepers. Take any trade, and you will find a comparatively small number of producers carrying on their backs a tremendous load of distributors. An article which costs perhaps 2d. to produce, sells for a shilling, and 10d. goes to those who neither toil nor spin. The first instinct of an Englishman is to keep a shop. In that very good book of Wells's, "Kipps," the hero, when he comes on hard times, thinks first of retail trade—"There is, of course, nothing on earth, and I doubt at times if there is a joy in heaven, like starting a small haberdasher's shop. Imagine, for example, having a drawerful of tapes (one white piece most exquisitely blocked of every possible width of tape)." Kipps decided that haberdashery meant too much capital, so started a bookshop instead, but in either trade he, with all the other shopkeepers, would have been very indignant if told that he was a rather useless person in times of stress: but is it not so?

Here, again, we may expect action from the Trades Councils; if they combine to buy raw materials, why not do the same in selling their goods? If the present enormous costs of distribution could be reduced it would result in an improvement in the standard of value, and a reduction in prices. We should get a better article for less money. There would be more producers and a better chance of raising the standard of living all round.

So far as our own trade is concerned, the building experience has been centred, during war time, in the hands of a very small number of men, and they have had to build, and not count the cost. Happily these times are passing, but post-war conditions will be such as call for the most careful handling. Saddled with a great burden of debt, and confronted with the necessity of large measures of social reconstruction, we shall at the outset have costs at least 150 per cent. in excess of those of pre-war days. Labour will fight for the retention of high wages, and quite properly so, but it will be impossible for the same to be paid unless we alter our general conception of things.

## UNITY IN ARCHITECTURE AND COLOUR DECORATION.

ON Tuesday, November 12, Mr. Ivor Beaumont, A.R.C.A., M.S.A., F.R.S.A., F.I.B., delivered a lecture, illustrated by a number of excellent lantern slides, on "Unity in Architecture and Colour Decoration," before a meeting of the Incorporated Institute of British Decorative Painters' Hall, Little Trinity Lane, Cannon Street. Mr. Beaumont said that when Michael Angelo used the phrase, "I know of but one art," he realised that architecture, painting, and sculpture must go hand in hand if perfect achievement was to be attained; it was only in conjunction with painting and sculpture that architecture could be at its best. His (the lecturer's) aim was to show the special alliance between architecture and colour decoration.

In this country more than any other every artist is a specialist. He did one thing well and passed the whole life doing it, and was, with very few exceptions, incapable, not only in the practice, but also in the appreciation of any other branch of art. Painting, sculpture, and architecture went to make the trinity, which was the union of the three. He believed that the art education of to-day was wrong. Each branch of the art ought to be taught to every craftsman, though he might afterwards devote himself to the special practice of one branch, and if they were to hope for broader results than had been attained in the past they must alter their art education. Their students should receive such an education as the craftsman obtained in the fourteenth and fifteenth centuries. A craftsman required a practical education so as to enable him to understand the material and apply designs to the material. In the past, decoration, painting, building construction, and architecture and sculpture were practised by the same man, and there were very few specialists.

The study of coloured decoration should undoubtedly go with the study of architecture, naturally they ought only to consider architecture worthy of expression. No building should be designed unless sculpture and painting were to be represented in some form or other. The great flights to which the decorator could aspire were those magnificent compositions of the Sistine Chapel at Rome, by Michael Angelo; the Stanze Vaticane at Rome, by Raphael; the Library at Siena, by Pinturicchio. There were great decorative works, too, in the Upper and Lower Church of San Francesco at Assisi and the Arena Chapel at Padua, executed by Cimabue and Giotto, and those of the Church of Eremitani at Padua, by Mantegna. Certainly they could not aim higher than those of those centuries had passed since their completion they still lived. Good construction and design go together as the basis of all fine architecture and decoration, and the decorators of Egypt were the masters in the application of colour and design.

Having traced in detail the decorative schools of Babylonia, Assyria, and Persia, the lecturer remarked that Greek architecture, too, was coloured, and was done in order to emphasise leading features. The Parthenon and the Temple of Theseus were painted, but the greatest structure in the world, illustrated most emphatically the unity of colour and architecture by means of coloured materials, was the Church of Santa Sophia at Constantinople. It was a Mahomedan mosque, built by a Greek architect, Anthemius of Tralles in Asia Minor. Mr. Beaumont described in detail the beauties of this church and remarked that the great beauty and charm of its wonderful interior lay in the constructive features, the coloured materials and the beauty of the great horizontal cornices. He also threw on the screen, and described in detail a picture of the little twelfth-century church of





General View.



Entrance Lobby.







Proprietor's Private Office.



Editorial Rooms.



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FURNITURE. XI.—ARMCHAIR OF CARVED WALNUT (HEPPLEWHITE STYLE—LATE EIGHTEENTH CENTURY).

*(Reproduced by courtesy of the Director of the Victoria and Albert Museum.)*



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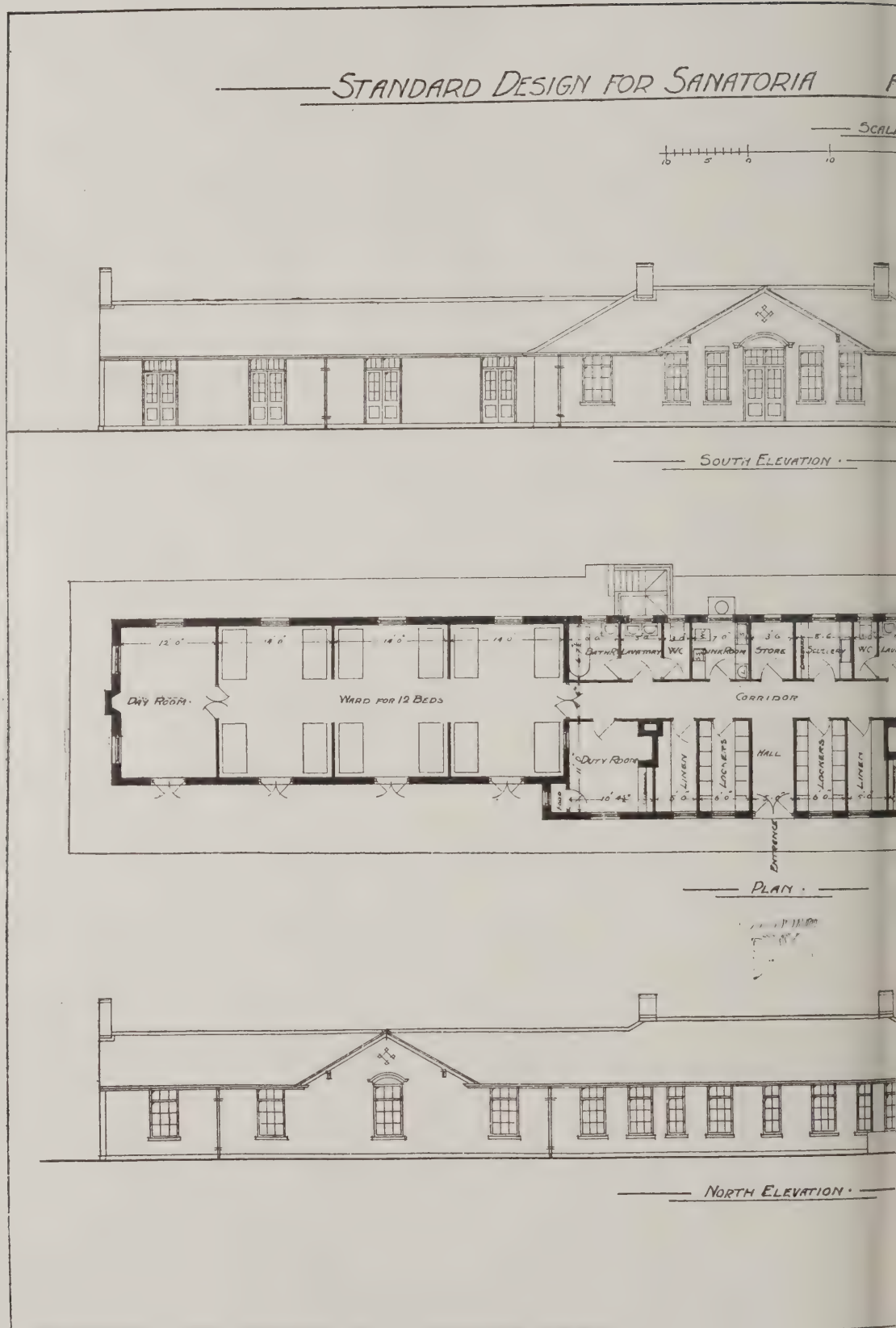
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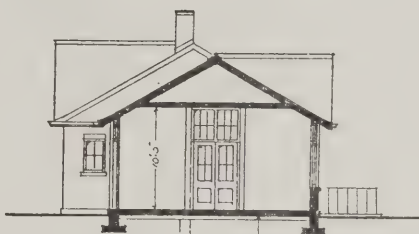
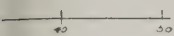


CURRENT ARCHITECTURE (SERIES VI.). V.—L.G.B. ST.

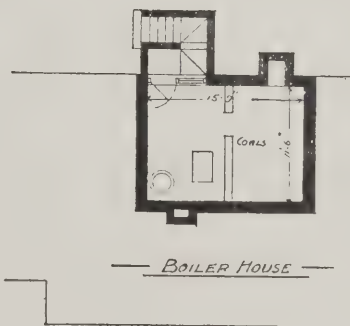
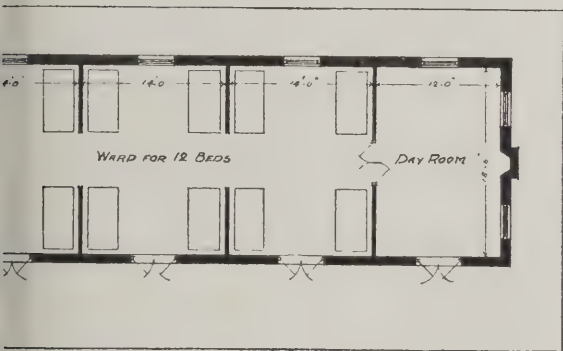
BROOK KITCHIN, F.R.I.B.A., ARCHITECT

# DISCHARGED SOLDIERS AND SAILORS

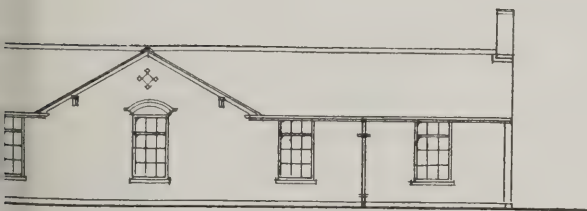
A.



SECTION A-B.



BOILER HOUSE



EAST ELEVATION

Frank Kishin  
Architect's Department  
Local Government Board.

ATORIUM FOR DISCHARGED SOLDIERS AND SAILORS.  
D THE LOCAL GOVERNMENT BOARD).



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niato, situated on one of the hills overlooking  
rence. This church, he said, exemplified the use of  
ured materials, and showed unity in the decora-  
and architectural scheme to a marked extent.  
n conclusion, he said that one of the finest examples  
he unity of architecture and colour decoration was  
e seen in the decorative work in the Central  
iminal Court at the Old Bailey, by his friend  
fessor Moira. The wall paintings were rich in  
our and broadly executed. Symbolical figure  
jects representing Justice, Mosaic law and English  
, filled the semicircular shapes. The dome was  
ided by ribs into panels, and in those were intro-  
ed single figures representing Art, Truth, Learn-  
and Labour, while the spandrels between the  
ettes also contained figure subjects.

## "OWEN JONES" PRIZES FOR DESIGN.

HE Council of the Royal Society of Arts hold  
a sum of £400, the balance of the subscrip-  
tions to the Owen Jones Memorial Fund,  
presented to them by the Committee of that fund in  
1866, on condition that the interest thereof be spent  
on prizes to "Students of Schools of Art, who, in  
annual competition, produce the best designs for  
household furniture, carpets, wall-papers and  
hangings, damasks, chintzes, etc., regulated by  
principles laid down by Owen Jones."  
The Council are now prepared to offer six prizes  
each of the years 1919, 1920, and 1921 for the  
following subjects:

IN 1919.

Architectural Decoration: Including stained  
glass, mosaic for walls and floors, plasterwork in  
relief and incised, inlaid marble and stones, letter-  
forms for memorials.

Woodwork and Cabinet work: Including carving  
in wood, ivory and bone, inlay, chairs, chests,  
cabinets.

Textiles† (a): Including tapestries, carpets and  
rugs, moquettes, floor-coverings (e.g., linoleums  
and floor-cloths).

IN 1920.

Domestic pottery and table glass.

Metalwork: Including work in precious metals,  
silver, gold, work, jewellery, enamelling, etc.

Textiles† (b): Including lace,\* embroideries,\* open-  
work, dress brocades, dress designs and costume  
accessories (including fans), printed fabrics for dress.

IN 1921.

Book Production and Ornamental Leatherwork:  
Including covers and lining papers for bookbinding,  
endpapers, lettering and printing, posters, trade  
cards and advertisements.

Wall papers, and other mural decorations.

Textiles† (c): Including damasks,\* brocades for  
upholstery and furniture, printed fabrics for hang-  
ings, vestments and church fabrics (including altar  
cloths, etc.), figured velvets, and figured muslins.  
Each prize will consist of a bound copy of "The  
Design Principles in Composition of Ornament of  
Every Period," from the "Grammar of Ornament,"  
by Owen Jones, and the Society's Bronze Medal.

The competition is limited to students of schools  
of art. No competitor may send in more than a  
single design for each of the above-named manu-

factures, but that design may be accompanied by  
one or two working drawings or other illustrative  
sketches. A sample of manufacture executed from  
the design may be submitted with or in substitution  
for the original design; but every submitted work  
must be approved by the master or other authority  
of the student's school, who must also certify that  
the design is the work of the student sending it in,  
and that it has been executed since the last compe-  
tition in which the subject of the design was pre-  
scribed.

No candidate who has already received an Owen  
Jones Prize for any of the above-named manufac-  
tures can take part in the competition. Compet-  
ing designs must be sent, carriage paid, and  
labelled "Owen Jones Prize Competition" on the  
outside, to the Director and Secretary, Victoria and  
Albert Museum, South Kensington, S.W.7, between  
June 23 and June 28, 1919. They may be delivered  
by hand on any one of the three days ending June  
28. The sender must also notify the Secretary of  
the Royal Society of Arts by post that the design  
has been sent in, and must enclose stamps or P.O.O.  
for the return carriage. No special conditions are  
laid down as to the size or character of the draw-  
ings sent in. The awards will be made by the  
Council of the Royal Society of Arts on the recom-  
mendation of judges appointed by them.

## CORRESPONDENCE.

*Architects' Demobilisation Committee.*

To the Editors of THE ARCHITECTS' AND BUILDERS'  
JOURNAL.

SIRS,—All communications relating to the demobi-  
lisation of architects should be addressed to the above  
committee at 35, Bedford Square, and not, as stated  
in the Government notice, to the Architectural Asso-  
ciation. The Demobilisation Committee is a sub-  
committee of the Architects' War Committee, which,  
for its own convenience and by courtesy of the bodies  
concerned, uses for different purposes the premises of  
the Institute, the Architectural Association, and the  
Society of Architects.

HENRY M. FLETCHER, Chairman.

## THE PLATES.

*The "Detroit News" Office.*

THIS fine example of a modern newspaper office is  
described in the article beginning on page 264.

In this type of building our American cousins set  
us a bold example which we have been slow to follow.

*A Late Eighteenth-century Chair.*

A graceful specimen of the fine furniture produced  
during the "Hepplewhite period," this chair is now  
included in the collection at the Victoria and Albert  
Museum. While extremely elegant in design, it has  
the more substantial merit of looking quite comfort-  
able. Not all Hepplewhite chairs, and certainly very  
few in the Chippendale mode, suggest their function  
quite positively, as this chair does. Not only does it  
suggest that anyone less ponderous than Dr. Johnson  
could actually sit on it without fear of collapse, but it is  
positively inviting to that end; and its weight-bearing  
capacity is greater than the elegant design suggests.

*Sanatorium for Discharged Soldiers and Sailors.*

This plate should be studied in conjunction with the  
L.G.B. circular reproduced on page 266.

† Signs for Bed-spreads, Table Covers, Cushion Squares, and Tea  
Covers will be eligible.

\* Should be particularly noted that only certain classes of textiles are  
eligible each year.



A MODERN NEWSPAPER BUILDING.

THE "Detroit News" building, of which several interesting illustrations are included in this issue, is a fine example of American newspaper enterprise. Well designed and constructed, it is equipped, both as regards printing plant and general fittings, on modern lines throughout. The general type of construction is skeleton reinforced concrete, the only departure from this being in the top storey, where the middle third of the building is devoted to the composing room, and where, in order to ensure the necessary daylighting, a monitor construction of structural steel had to be employed.

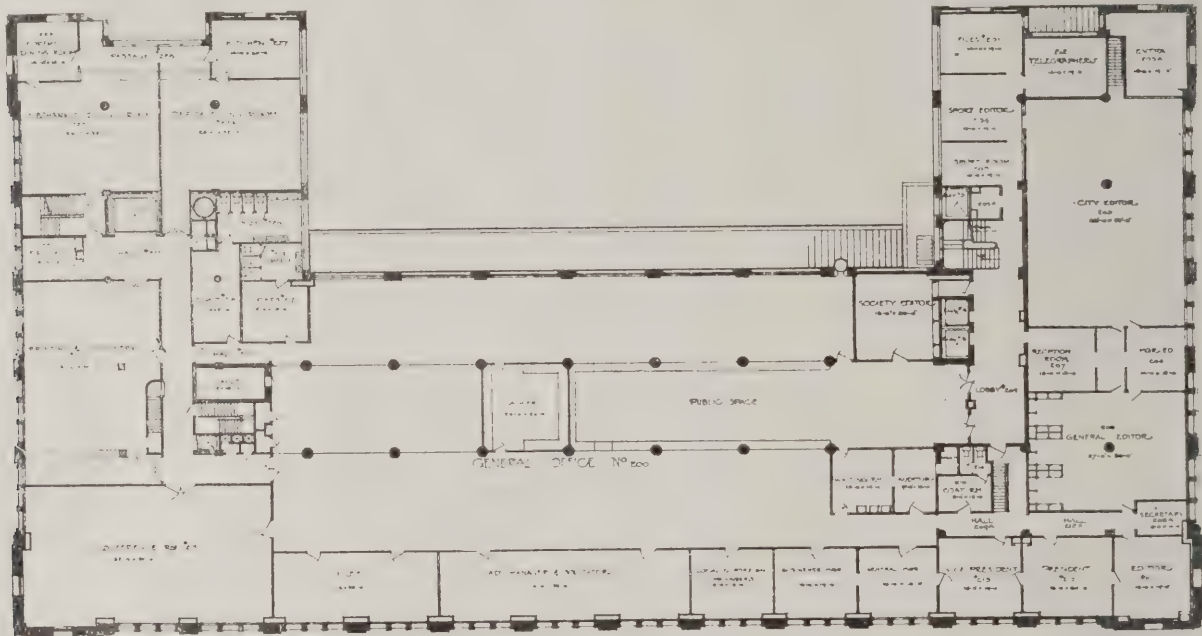
In a job characterised as it is by many remarkable structural features, the layout

of the second supported floor stands out noticeably. In this case two important conditions were met. The first storey, over which this floor stands, is divided in the main into two great sections—the eastern section being the press room and the western the mailing room. In order that no intervening columns should interfere with the battery of presses which stand in a long impressive line, it was necessary to treat the ceiling as a series of deep beams spanning from the outer walls to the centre row of columns. Later, a suspended ceiling was hung over the floor, affording the perfectly flush surface necessary for lighting effects.

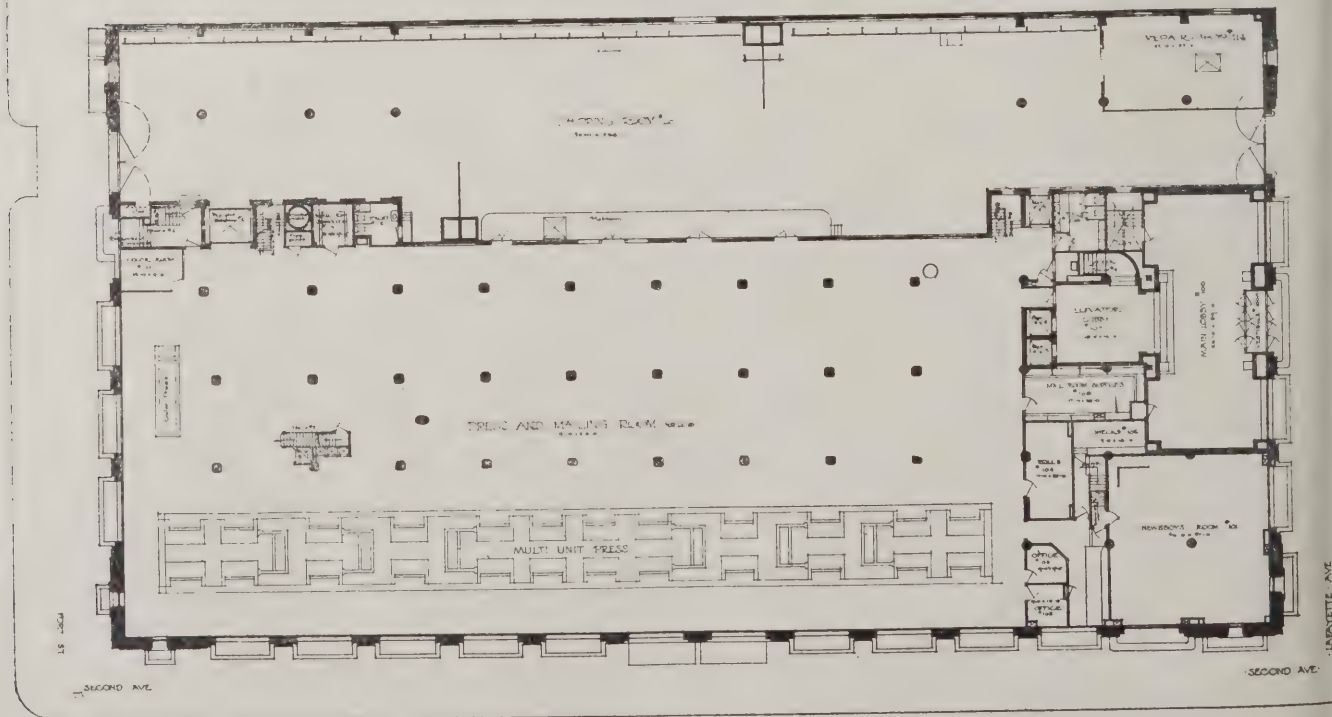
The westerly two-thirds of the supported floor is flat slab construction, of reinforced

concrete. The utility of this type of design in this place is at once apparent to observer. This part of the first storey the mailing room, where it was desired to secure all the natural light available. The west of this mailing room is the shipping dock and garage. The architect (Mr. Albert Kahn, with whom associated Mr. Ernest Wilby), by dipping the roof of the shipping dock below the level of the second floor ceiling, enabled to turn into the mailing room strong westerly light. As may be seen this flat ceiling, without the trace of a beam, aids greatly in the general lighting effect.

The mezzanine at the extreme west end of the first storey contains a va-



FIRST FLOOR PLAN



PLANS OF THE "DETROIT NEWS" OFFICE.

ALBERT KAHN, ARCHITECT (ERNEST WILBY, ASSOCIATE).



THE "DETROIT NEWS" OFFICE: PRESS AND MAILING ROOM.

number of types of design. Here, to meet the governing conditions, long-span steel corrugated tile design offered a helpful solution. This construction consists of a series of steel corrugated tiles in conjunction with concrete joists reinforced with thin and Rib Bars. Somewhat similar construction is employed throughout the maining floors.

Various types of sash windows have been adopted in different parts of the building. For instance, the first storey is fitted with steel casements, pivoted top and bottom. The second and third storey is of a counterbalanced type, while a continuous sash is used in the monitor over the composing room.

The southern half of the top floor contains the stereotype room, private offices, locker rooms, shower baths, etc.

The building is heated by steam at atmospheric pressure. There are two separate heating systems; one for the press room, which is required to be controlled independently and which is figured heat to 75 deg., and one for the remainder of the building. All radiators are drained through vacuum valves, and are provided with graduated inlet valves. The radiators in the principal offices are thermostatically controlled.

The building is ventilated with washed air throughout, two systems being installed, with supply and exhaust fans, washers and heaters located in the pent houses on the roof. A total of 90,000 cubic feet of air per minute is supplied to the building.

The electrical equipment is very complete, and all provisions have been made for future expansion and the rearrangement of the offices. The electrical service brought to the building at 2,300 volts, direct current, to a transformer station in the basement, where it is stepped down to 100 volts.

An automatic sprinkler system has been installed.

Fire alarm boxes are provided on all floors, and a connection is maintained with the fire signal system at headquarters whereby all fire alarms in the city are reported.

### RELEASE OF "PIVOTAL" MEN.

The Government have arranged to release a limited number of "pivotal" men in advance of general demobilisation. The list of privileged industries and professions includes several which relate specially to building and associated interests. These are given below, together with the addresses (where indicated) to which employers and others should apply:

Bricks (Building).—Building Material Supply Committee, 6a, Dean's Yard, Westminster, S.W.1.

Cement.—To be announced.

Building Materials, other (except timber, glass, stone, and steel).—Building Materials Supply Committee, 6a, Dean's Yard, Westminster.

Building and Construction.—Local Advisory Committee at the nearest Employment Exchange.

China Clay.—Joint Standing Industrial Council, China Clay Industry, The Old House, St. Austell.

Glass.—O.M.G. Department, Ministry of Munitions, 177, Piccadilly, W.1.

Iron and Steel Manufacture (primary processes only, excluding stampings and forgings).—Iron and Steel District Release Committee.

Paints, Colours, and Varnish.—Joint Industrial Council (Paints, Colours, and Varnishes), Exchange Buildings, Bowl-alley Lane, Hull.

Steel Sheet (Staffordshire Mills).—To be announced.

Stone Quarrying.—To be announced.

Timber.—To be announced.

Tinplate (including Welsh Sheet Mills).

—Central Tinplate Executive Committee, Swansea.

Wire (Iron and Steel).—Joint Secretaries, Wire Trade Resettlement Committee, 10, South Parade, Manchester.

*Professional, etc.*

Architects (England and Wales).—35, Bedford Square, W.C.1.

Engineers (Civil, Mechanical, Mining).—To be announced.

Surveyors.—Surveyors' Institution, 12, Great George Street, S.W.1.

### ESSENTIALS OF FACTORY CONSTRUCTION.

In considering proposals for the erection of new factories, says a writer in the "Daily Telegraph," the special requirements of the particular work involved will, of course, to a great extent govern the type of building selected, but there are many fundamental considerations of paramount importance which apply to all industrial buildings. These essentials may be briefly summarised. The buildings should be substantial and durable without being unnecessarily heavy. They should be weatherproof, fireproof, and vermin-proof, pleasing in appearance, capable of quick erection and of easy extension, the latter an important factor in the management and development of a growing concern, and one which is frequently overlooked. The type of construction should be such that future maintenance will be reduced to a minimum. Lighting, heating, and ventilation are matters that require careful attention. Convenient internal arrangements should be aimed at in the interests of economical and efficient administration. Finally, it may be urged that in the erection of the modern factory advantage should be taken of every known improvement, both with regard to construction and general equipment, which is likely to extend productive power.



## SANATORIA FOR DISCHARGED SOLDIERS AND SAILORS.

The official design for sanatoria for discharged soldiers and sailors, reproduced on the double-page supplement in this issue, should be studied in conjunction with the following circular on the treatment of tuberculosis, issued recently to the Councils of Counties and County Boroughs by the Local Government Board:—

I am directed by the President of the Local Government Board (says the Secretary) to state that he has recently conferred with the Minister of Pensions and representatives of the National Health Insurance Commission in regard to the difficulty experienced in many areas in consequence of the shortage of residential accommodation for the treatment of tuberculosis.

As the Council are aware, there has been a considerable extra demand on the available accommodation in consequence of the number of men who have been discharged from His Majesty's Forces suffering from tuberculosis and for whom treatment in a residential institution is necessary. After carefully considering the whole question, Mr. Hayes Fisher (who has since retired from the Presidential office) is satisfied that a substantial addition to the existing accommodation, especially accommodation for the more advanced cases, is required at once, and I am accordingly directed to request the Council to take this matter into immediate consideration.

After suggesting that, under certain conditions, existing buildings might be utilised (at least temporarily) for the treatment of tuberculosis, the circular proceeds:

It is, however, clear that some of the extra accommodation required can only be provided by new buildings, but as the expenditure must be kept as small as possible this should take the form of extensions of existing institutions.

With a view to assisting local authorities to provide additional buildings the Treasury have agreed that the Board may make grants of four-fifths of the capital outlay on such additions, subject to the following conditions:

(1) That the remaining one-fifth of the cost is wholly provided by the Council out of revenue. The tuberculosis maintenance grant will not be available in aid of this part of the expenditure.

(2) That, for the present, men discharged from His Majesty's Forces needing residential treatment, whether belonging to the area of the Council or not, should have the first claim to the additional beds.

(3) That the extra accommodation is provided in the cheapest way compatible with efficiency; and,

(4) That the plans, specifications, and estimates of the additional buildings have received the prior approval of the Board.

The capital grant will not ordinarily exceed £160 per bed provided.

After the present emergency is over and the beds are no longer required for discharged men, they will be at the disposal of the Council as part of their ordinary provision for dealing with this disease.

The Board's architect has prepared a plan (the one reproduced in this issue) of an economical extension in the form of a detached pavilion.

Provision is made in the plan for twenty-four beds. It is realised, however, that in some cases so many additional beds will

not be needed. In the event of twelve beds only being required, half the block, including day room, could be erected.

The plan shows an underground heating chamber, which may also be used for drying clothes. This arrangement may be adopted if the site levels allow of convenient drainage for the boiler-house, but where this cannot be secured some other arrangement will be necessary.

It is hoped that additional accommodation for staff will not usually be necessary, or if necessary, that it can be provided economically by additions to the existing staff quarters.

To meet cases in which additional staff accommodation is essential and cannot be provided economically elsewhere, alternative plans have been prepared showing bedrooms for staff in the patients' pavilion. These will be reproduced in subsequent issues.

No standard specification has been prepared, as the choice of materials will to some extent depend on local conditions. In each case the materials selected must be those which can be most cheaply provided.

A similar capital grant will be available in aid of any necessary capital expenditure incurred with the approval of the Board for the provision of beds in the way indicated in the earlier part of this letter, provided that any furniture or equipment, the cost of which is defrayed with the aid of this grant, will be removed to another institution approved by the Board for the treatment of tuberculosis, if the premises equipped with the aid of the grant cease to be used for this purpose within a period of ten years from the date of the grant.

Mr. Hayes Fisher has been in communication with the War Priorities Committee of the War Cabinet as regards the grade of priority for the supply of the necessary building materials, etc., and he is informed that the Committee are prepared to issue instructions that Class A, Grade 4, Priority Permits should be granted for the release of controlled materials required for the work, and in cases where any difficulties or delay are likely to arise, the Committee might be prepared to grant a Grace 3 Permit if necessary.

As stated above, the choice of the particular materials for the purpose will depend largely on local conditions, but, in view of the shortage of timber and the demand for cement made by the War Office, it will probably be necessary in most cases to adopt some form of brickwork, and Mr. Hayes Fisher is advised that at the present time brick buildings can generally be provided more economically than those constructed of other materials. Steel should be used as far as possible in substitution for timber in roofs and walls, and might also be used as a framework if concrete slabs or blocks can be obtained. In all cases the Board should be furnished with a specification showing the materials proposed to be used.

Mr. Hayes Fisher has also been in communication with the Minister of National Service as regards the supply of labour for this purpose, and he is informed that contractors applying for priority of labour should register full particulars of the labour required at their local employment exchange, and should obtain from the exchange manager, and forward to the Ministry of National Service, the order numbers attached to their demands so registered.

A copy of the particulars forwarded to the Ministry of National Service should in each case be sent to the Board.

## CANCELLED DEFENCE REGULATIONS AND RELEASE OF METALS.

An Order in Council was made on November 26 repealing a number of the Defence of the Realm Regulations. Some of the regulations now formally repealed have been practically in abeyance since the date of the signing of the armistice, particularly those relating to air-raid precautions. It is proposed after a short interval again to review the regulations with a view to further revocations.

### *Sketches and Photographs.*

Regulation 19, with regard to sketching and photography on the coast and elsewhere, is revoked, and the authorities were, as before the war, on the provisions of the Official Secrets Act, 1911.

### *Lights.*

Regulation 11, which enables the Home Secretary to make orders with regard to lights, is still retained, but all the orders made under it have been cancelled except the orders relating to lights on vehicles, the Lights (Driving of Animals) Order, and the Advertisement Lights Order. Regulation 12, which empowers the naval and military authorities to require the extinguishment of lights, is revoked.

### *Military Service.*

A large group of regulations under which the Ministry of National Service have controlled recruiting and exemption from military service are revoked.

### *Release of Metals.*

A partial withdrawal of the war restrictions on the metal trades is notified by the Ministry of Munitions. The Government are prepared, until the existing Order under the Defence of the Realm Act is withdrawn, to release, without special priority permits, stocks of non-ferrous metals, so far as they are available, for general industrial purposes. Application should be made to the Controller of Non-Ferrous Materials Supply, Ministry of Munitions, Hotel Victoria, Northumberland Avenue, W.C.2. No permit is now required for the manufacture or sale of iron and steel wire or wire ropes for the home trade. The Government will continue to issue priority permits for work of special national importance where necessity arises, and firms may still issue priority certificates where the Order as of priority of March 8, 1917, allows them to do so. Any orders covered by such permits or certificates or by existing permits or certificates not cancelled by specific instructions of the Government will still be executed in accordance with that Order. No application need be made to the Priority Department of the Ministry of Munitions unless it is desired to raise the priority of a contract on grounds of national importance. Agents or brokers may be employed in the case of non-ferrous metals. Licences will be granted when necessary, by the War Trade Department for the export of goods manufactured from non-ferrous metals as free as possible to all destinations not affected by the blockade. Color and foreign applications with regard to iron and steel wire or wire ropes must be made in the usual way, the former to the Priority Department, 1, Cannon Street, Westminster, and the latter to the War Trade Department, 4, Cannon Buildings, Westminster, S.W.1. U



her notice, manufacturers of forgings, stampings, and castings, in iron, steel, or malleable iron, may accept orders for such forgings, stampings, and castings for priority below Class B subject only to the order as to priority dated March 8, 1917. For this purpose the prohibition of the manufacture of iron, steel, and malleable iron for orders ranking below Class B, imposed by the Control of Steel Supplies Order of November 20, 1916, is suspended. The current maximum prices for home-made iron and steel remain in force until further announcement is made.

## USING AND HOME-MAKING.

At these early days after the signing of an armistice, it certainly seems as though the Government were tackling the many serious problems of demobilisation and reconstruction with energy and resource, and, in particular, housing reform is deserving the attention it deserves. At the moment of writing Sir Auckland Geddes, President of the Local Government Board, has just issued a Circular to all local authorities in which he emphasises the importance of housing in relation to public health. He calls on them to take action immediately to submit schemes to the Local Government Board, and states that the present position of affairs makes it imperative that in this matter he should know the precise intentions of every local authority.

### *Fundamental Points in a Complex Question.*

There are authorities who have not studied the question with the thoroughness which its importance merits, it is much to be hoped that they will not now act without due preparation and consultation with experts. Housing reform brings a question of the greatest complexity, the manifold issues which often tend to obscure the fundamental principles which must inform any successful scheme, whether local or national. Among these principles, it will be generally admitted, one of the chief is, as Sir Arthur Newsholme, Medical Officer to the Local Government Board, has put it, that "the quality and adequacy of the housing should be measured by the extent to which it assists home-making." The war has not taught us that the nation must to a certain degree stand or fall by the quality of its families; it has also revealed to us something of the part played by the mother in raising and maintaining the standard of family life, and something, too, of the duties which she has to encounter in the type of home hitherto considered adequate for the mass of a nation born to a great traditions and responsibilities of its own.

A house is a home which hinders a man in her task of rearing a family in the care of body and mind; and there are many which even approach the required standard of convenience in working, as emphasised by Sir Arthur Newsholme in the following main heads:

Satisfactory arrangements for cooking and for the heating of water.  
Provision for the cool and dustless storage of food.  
Separate storage room for coal and

A supply of hot water over the sink.

### *The Woman's Point of View.*

These are all matters, therefore, which have to be most carefully considered

by local authorities who are now arranging housing schemes at this eleventh hour. They will not be contemptuous of the "woman's point of view"; for women make the home, and the home makes the Empire. If the above requirements are analysed, moreover, it will be seen that their successful provision hinges mainly on the important question of fuel. Take the second point, for instance; in the average working-class dwelling or tenement if there is any place for the storage of food other than the living-room itself it will generally be found to be a cupboard by the side of the grate or stove, with no ventilation and no light. It cannot then be doubted that the increased use of smokeless and dustless fuel would contribute to better hygienic conditions, more especially as, if gas were used instead of coal, the precious floor space otherwise necessary for the storage of fuel could be freed for other uses. The millions of penny-in-the-slot gas-cookers to be found in artisan homes to-day are a sufficient proof that working-class women appreciate the time and labour-saving advantages they offer, and there seems no adequate reason for opposing the extension of gas equipment in poorer as in wealthier homes. A small, economically burning gas fire, for instance, is the ideal method of warming the living room in a small dwelling, most of the occupants of which are out at work or at school all day. The necessary warmth in the early morning and evening can by this means be obtained without work, worry, or waiting; waste of fuel is eliminated, while the cost is moderate and will be smaller still if, as we all hope and expect, gas is reduced in course of time to its pre-war prices or even less, as the utilisation and value of the by-products increase. The cleanliness and comfort gained by such a system are very strong arguments for its adoption.

### *Hot Water and Health.*

A satisfactory hot-water supply is another essential of a hygienic and well-ordered dwelling. This may be obtained in various ways, but it is desirable that it should not depend upon the consumption of solid smoky fuel in the individual home. In some schemes the idea is to supply hot water through pipes to every dwelling-house within a certain radius from a central station where the water will be economically heated by a coke furnace. In other quarters the gas-heated wash copper is considered an adequate means of providing hot water for baths, cleaning, etc. Whatever be the method adopted, however, it must be such that the chief household duties of the housewife will be thereby rendered as easy as possible. "She is responsible for the cleanliness of the house, of the body linen and bedding, and of herself and her children; but often every pint of water for this purpose needs to be heated on the stove, and there is no hot water supply over the sink. In sublet houses she may have to mount one or two flights of stairs with every pailful of clean water, and to descend similarly with all fouled water. Under these conditions, cleanliness and health are almost unattainable."

### *Durham City Housing.*

Considerable progress is being made with the preparation of Durham City Council's housing and town planning scheme, and plans are already under consideration. The scheme provides for three groups of houses in the Elvet, Gilesgate, and Framwellgate areas, and will involve the demolition of much ruinous property.

## THE NEW WAGES ACT.

The Ministry of Labour issues the following statement with reference to the Wages (Temporary Regulation) Act, which passed through Parliament a fortnight ago.

The Act, which repeals Part I. of the Munitions of War Act, 1915, renders necessary certain alterations in the procedure hitherto adopted for the settlement of differences as to wages. The main purpose of the new Act is to secure the maintenance for a period of six months of the minimum wages generally applicable at the date of the signing of the armistice in each trade or branch of a trade or district, to each class of workmen, except in so far as these minimum wages are varied by arbitration or by agreement.

"Workmen" includes men and boys, women and girls, and the wage elements dealt with by the Act are the recognised time rate or other basis for determining wages (e.g., in the various trades, a shift rate, or piece-work price list, or scale of tonnage rates, etc.), the usual allowances for overtime, night work, week-ends, or holidays when any of these are worked, and the general war bonuses or war advances where these are paid in addition to the time rate or other wage basis. The wage resulting from these elements, ascertained with regard to classes of, as distinct from individual, workmen, is called "the prescribed rate of wages." Other elements in wages are not dealt with by the Act, nor are the wages of individuals. Such matters are for arrangement between the parties concerned.

During the six months period for which the Act provides the prescribed rate of wages may be varied either as the result of arbitration or an agreement or settlement approved by the Minister of Labour. The Act provides for the establishment of a Court of Arbitration, which will deal with differences referred to it by the Ministry of Labour in cases where the parties have been unable to settle as to what the prescribed rate should be.

It will be observed that the Wages Act alters in important respects the wages position under the Munitions of War Acts. Minimum rates of wages being provided for, it leaves all other questions as to wages open to free negotiation. The Minister of Labour trusts that this freedom to negotiate will be generally exercised in a conciliatory spirit, so that satisfactory wage arrangements of a permanent character may be established in each trade before the Act expires.

Questions which do not come under the Wages Act, and which cannot be settled satisfactorily by the employers and workpeople concerned or by the employers' associations and the trade unions, may, with the consent of both parties, be referred to arbitration through the Ministry of Labour under the Conciliation Act, 1896. Requests for arbitration under this Act should, if possible, be made jointly by the parties concerned. Under this Act the Ministry of Labour can appoint an arbitrator only with the consent of both sides.

The Minister of Labour has established a Wages and Arbitration Department (under Mr. H. J. Wilson, C.B.E., Assistant Secretary) to deal with questions relating to wages, etc., under the Wages Act and the Conciliation Act, 1896. Correspondence arising out of these Acts should be addressed to the Secretary, Ministry of Labour, Montagu House, Whitehall, S.W.1.



# COKE HOPPERS AND WATER TANK AT BLACKBURN.

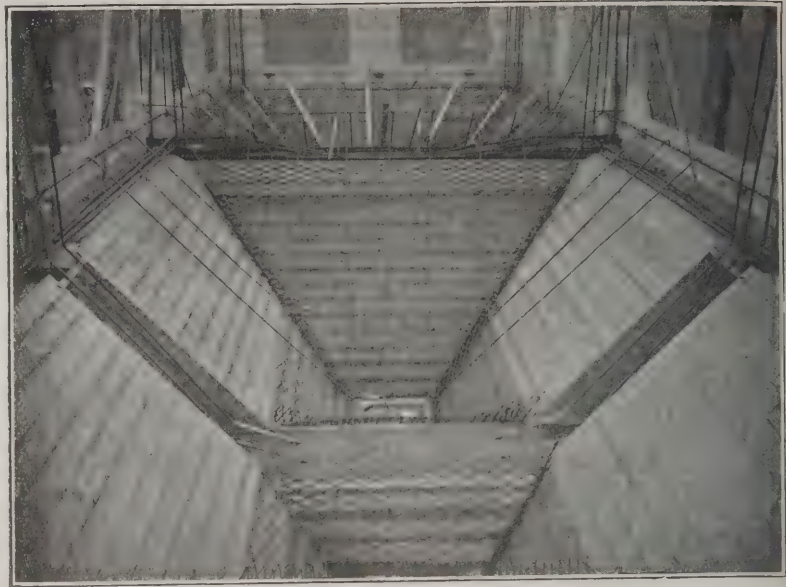
The reinforced concrete coke hoppers and water tank (and small engine house) shown in the accompanying illustrations have overall dimensions of 48 ft. by 29 ft., the height from the ground to top of tank being 46 ft. 6 in.

The principal reinforcement is expanded steel and plain round bars; a few trussed bars and indented bars were also employed. Expanded steel is used as the reinforcement in the column bases, the bottoms and side walls of the hoppers, and in the bottom and in the side walls of the tank. Portland cement was used throughout with crushed granite as aggregate.

The total weight of the structure in use is about 280 tons, the hoppers, when full, carrying about ninety tons of coke, the capacity of the water tank being about 100 tons. In addition to this a heavy coal conveyor and its driving shaft, etc., are carried. The superstructure is supported on six columns varying in size from 20 in. square for the centre columns to 16½ in. and 15 in. square for the side columns. These columns are carried on bases 8 ft. 3 in. square under the 20-in. columns, 7 ft. square under the 16½-in. columns, and 5 ft. square under the 15-in. columns.

The storage and loading hoppers, occupying the full length of the structure, are not divided, but there are four hopper mouths, three being for loading trucks, the small one situated at the end being provided for the purpose of loading carts. The hoppers are 8 in. thick at the junction, with the walls to 6 in. thick at the mouth, reinforced with No. 30 expanded steel and round bars, some of the latter projecting to carry the sliding mouth-pieces, which are 2 ft. square.

The hanking beams suspended from the hopper sides are reinforced with round bars carried well up into the side beams, the full depth of the hopper sides being calculated as a beam with a top and bottom flange. Round bars take the tension and compression, the expanded steel in the panels taking the shear in addition to the lateral pressure of the coke.



COKE HOPPERS DURING CONSTRUCTION.

The water tank, situated immediately above the hoppers, is carried by columns and bracing struts; the columns form a continuation of the main columns, and the struts act as wind bracing and assist in carrying the load. These members carry the main beams at the side of the tank, which in turn carry the reinforced concrete bottom. The tank is 4 ft. deep, the bottom being formed of cross beams and 5½ in. slab, reinforced with one layer of No. 10 expanded steel; the side walls, varying in thickness from 5 in. to 4 in., are reinforced with one layer of No. 8 expanded steel. The inside is lined with Limmer asphalt, ¼-in. thick.

Mr. S. R. Ogden was the engineer for the works, which were constructed by Messrs. The Expanded Metal Company, Ltd.

The conveyor gear and mechanical work throughout was executed by Messrs. Drakes, Ltd., of Halifax, Yorks.

## AN ARCHITECT CANDIDATE

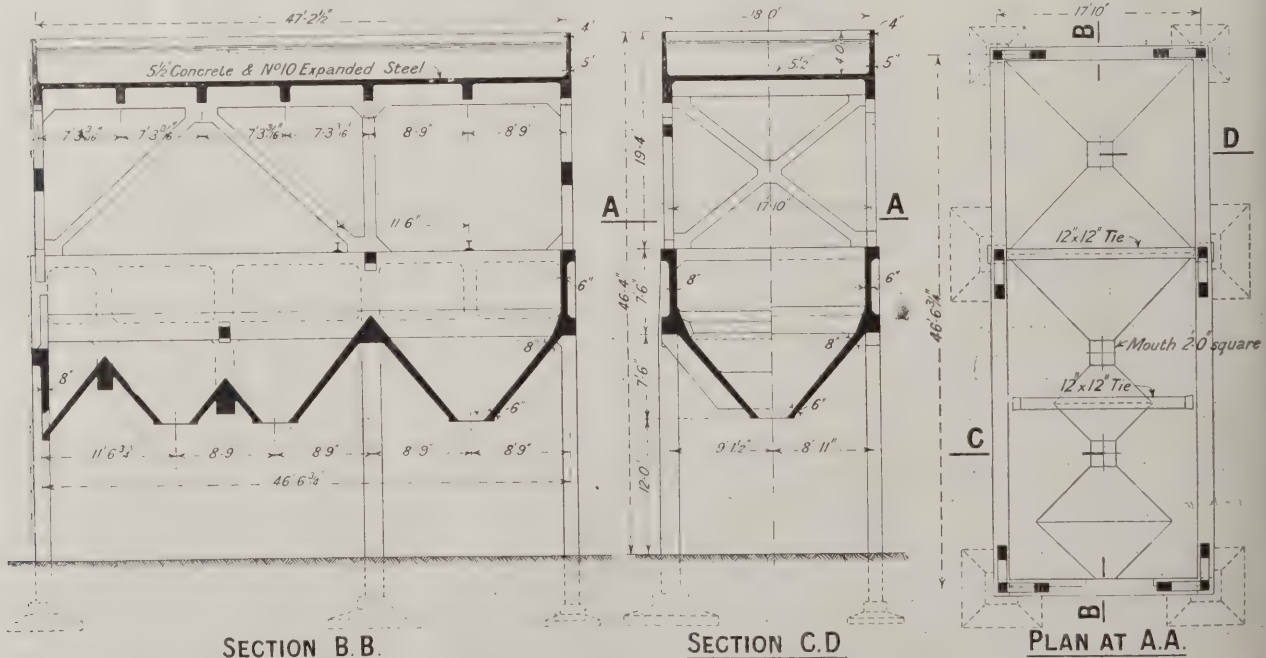
Mr. William Hunt is a candidate for Parliamentary election for the division of Balham and Tooting. He is standing as the local Coalition candidate, supporting Mr. Lloyd George's policy as enunciated by him and

(1) Indemnities to be paid by enemies.

(2) Eradication of German influence.

(3) The "housing" question so as to provide homes for workers to be desired and planned with regard to health, comfort, and with the essential simple aesthetic qualities so important, so often lacking in the present.

His agent and secretary, and central committee rooms, are: J. P. Glover, Central Committee Rooms, 17, The Boulevard, Balham High Road, S.W.17. The nearest station is Balham on the London, Brighton, and South Coast Railway.



REINFORCED CONCRETE COKE HOPPERS AND WATER TANK, GREENBANK GAS WORKS, BLACKBURN.

S. R. OGDEN, ENGINEER.



## THE CONCRETE INSTITUTE: PRESIDENTIAL ADDRESS.

On Thursday last Mr. H. D. Searles, F.R.I.B.A., delivered his Presidential Address to the Concrete Institute. In his address he referred at some length to the Institute's Report on the Relations between Architects and Specialist Engineers, the President went on to describe the research work that had been done by the Science Committee in conjunction with the Department of Scientific Research. The standard specification for reinforced concrete (continued), is now nearly ready for publication, and in reference to this I should like to call the attention of members to the generous action of Messrs. A. H. Scott and Percival M. Fraser in giving at the disposal of the Concrete Institute the copyright of their Standard Specification for Reinforced Concrete Work, with full permission for the Institute to make what use the latter deems fit in respect to this copyright. I think that I cannot speak too highly of Messrs. Scott and Fraser's action in this respect, and I am sure all members will be in one with me in desiring to place on record our hearty vote of thanks to them for their first public meeting subsequent to giving their letter stating the decision which they had arrived at. The "Recommendations to Clerks of Works and others engaged in the execution of Reinforced Concrete Work" has been approved for publication, and is now being sent through the Press.

The Sub-Committee appointed to deal with the use of high-tension steels in reinforced concrete has held several meetings, and is proceeding with the manufacture of beams and slabs for immediate testing purposes.

The Sub-Committee has been appointed to investigate the question of the use of reinforced concrete in shipping, consisting of representatives of the Admiralty, the Board of Trade, Lloyd's Register of Shipping, the Institution of Naval Architects, and the Concrete Institute. At the first

meeting Sir Henry Tanner was elected chairman, and a preliminary programme was drawn up as follows:

(a) Different methods of construction adopted or under consideration.

(b) Special difficulties arising in this form of construction—

- (i.) Forms,
- (ii.) Aggregates,
- (iii.) Permeability,
- (iv.) Cracks arising from shrinkage and shear.

(c) Spacing of reinforcement with a view to preventing cracking.

(d) The possibilities of decreasing the weight of concrete.

(e) Waterproofing.

The question of the reconstruction of the building industry after the war, as dealt with in the Report of the Materials Committee of the Ministry of Reconstruction, is of great interest to us. Having detailed its recommendations (published in the Journal for November 20), the President said that the only works to proceed without permits are, including works of repair, under £500 in value. This limit will be varied by the Central Committee as circumstances require.

There is no doubt that the people in this country are very anxious to obtain relief from the troublesome necessity of getting their permits, and every effort ought to be made to put on these Committees people whose interest should be to terminate the present control at the earliest possible moment.

There appears to be plenty of steel for constructional purposes, and the output of cement does not present any great difficulty; so that the building industry, in which we are interested, may look forward to a very busy time, if the existing high prices of labour and materials are brought down to a reasonable figure. The Report does not make any proposals with reference to the control of prices, nor does it suggest that manufacturers should sell otherwise than in the open market. If the works producing building materials are enabled to proceed to their full productive capacity as early as possible, and thus

cheapen production directly and through the reduction of on-cost, and also if labour is forthcoming and will but increase its output, then the building industry will be re-established soon.

The question of finding work for the returned soldier is one of the most serious problems that will be within the purview of the Regional Committees, and in this connection the Cottage Building Scheme will be of great use as affording opportunities for employment when there is labour available; the Housing Scheme which the Government is subsidising will make a useful reservoir to be drawn on where employment is needed.

So much has been said about the housing problem that it is difficult to find any point not touched on, but I should like to suggest that the insulation of walls and ceilings to make warmer cottages is worthy of consideration; and if this is done the ventilation of the rooms must have careful attention, as the breathing power of brick walls and plaster ceilings is of considerable value in small rooms. For the finish of concrete floors in these houses the composition made with sawdust, cement, and magnesite is recommended, but I should like to point out the danger of having magnesium sulphates near iron; there have been many cases where these floors have been used and the steel reinforcement has been seriously injured.

A series of experiments on solid floors for cottages is now being carried out by a Committee appointed by the Local Government Board at the testing station of the British Fire Prevention Committee. Up to the present two types of floors have been tested, and it will be interesting to hear the results. The object of the inquiry is to ascertain the most economical and efficient form of solid flooring as a substitute for timber construction.

I would just make a passing reference to our library, of which we hope that more use will be made in the future. Our staff has been engaged in arranging and cataloguing the books, and those members who may have occasion to use the library will find that the books are readily available for reference.

In connection with demobilisation, it might be of assistance to some of our members with the forces if we took action, as some of the other technical societies have done, to obtain the early return of our members as pivotal men. For those who do not get early release it would be useful if they could take up some study in connection with the occupation they propose resuming on their return to civil life. Mr. William Dunn has offered, as lecturer and instructor, to take charge, for the study of reinforced concrete, of a class of young men released from service.

We are entering on a new era, when reconstruction is at work everywhere. Let us do our part as an Institute with a great future, and make use of the many opportunities of advancing the knowledge and influence of our members, that they may reap the reward due to patient industry and merit.

The War Office is offering every encouragement for these studies, and I think that this is a subject that ought to occupy the attention of the Concrete Institute. It is proposed to establish an entrance examination as soon as possible after the war. It would help young men, if it is made known, that the fact of having followed such a course of study would be accepted as a qualification for admission to the Concrete Institute.



REINFORCED CONCRETE COKE HOPPERS AND WATER TANK, BLACKBURN.



## CONCRETE AS A SUBSTITUTE.

The following list of structures and articles in which timber can be advantageously replaced by concrete, or reinforced concrete, has been prepared by the Concrete Institute for the benefit, not only of architects and engineers, but also of land and building owners, farmers and others, who find it difficult or impossible to obtain the things they need on account of timber shortage:

**Railways:** Trestle bridges and viaducts, camp sheeting, fence posts, gates and posts, notice boards and posts, gradient posts, sleepers or chair blocks, buffer stops, buildings or cabins of all kinds, signal posts and gantries, signal wire posts, telegraph posts, station name boards, lamp posts, hopper pits, coal bunkers, gantries, wagon bodies for slow and heavy traffic, platforms and platform roofs.

**Docks and Harbours:** Piled jetties, viaducts, wharves and landing stages, floating pontoons, caissons, coal hoist frames, dock and lock gates, ships and barges, dolphins and booms, buoys of all descriptions, signal masts, lighthouses, platforms, etc., accumulator framings; buildings and cabins of all descriptions, bilge blocks and keel blocks, piled cofferdams, dams in rivers, groynes of all sorts, foundation rafts, mooring foundations and anchorages, slipways (see also under "Railways").

**Building Accessories:** Glazing bars, window and door frames, lintels, sills, cornices, and quoins, concrete blocks and slab walls, floors and roofs, glazed loading shelters and frame work, stairs, landings, handrails, and balusters, balustrades and balconies, tanks and vats, connecting bridges, skylights and pavement lights, fences and gate posts.

**Roads:** Curbs, road surface, sign posts, boundary fences, culverts.

**Agricultural:** Cattle stalls, feeding floors, feeding troughs, fence posts, gate posts and gates, mangers, outhouses, sheds, all buildings, pig sties, poultry houses, rick stands, tanks (elevated and otherwise), threshing floors.

**Mines:** Bulkheads, linings to shafts and drifts, pit props, stringers and ties, pit-head frames, air locks, fan casings.

**Waterworks:** Pipes, plumes, troughs, dams, weirs.

**Miscellaneous:** Garden and park seats and benches, garden frames, greenhouses, pergolas, dustbins, scaffold poles, "timbering" for excavation, poling boards, baulks and planks for storage of pipes, bandstands, football and grand stands, advertisement boards.

## THE CEMENT INDUSTRY.

There has been (says a writer in "Engineering") a good deal of discussion in Germany as to the fixing of the price-level within the cement industry, and in support of the manufacturer's view, that the present quotations by no means are excessive, particulars have been compiled showing the results of the last few years' working as far as sixty different cement works are concerned. Of these sixty works, fourteen paid no dividend at all for the year 1917, eight works paid from 1 per cent. to 5 per cent., thirty-two works paid from 6 per cent. to 10 per cent., and six works from 11 per cent. to 15 per cent.

The average dividends for the last seven years of the above sixty works were as

follow: 1911, 4.6 per cent.; 1912, 6.2 per cent.; 1913, 7.9 per cent.; 1914, 2.88 per cent.; 1915, 1.32 per cent.; 1916, 1.94 per cent.; and 1917, 6.75 per cent.

It will appear from this that last year, which some people hold has been almost unduly lucrative, does not come up to the last peace year, and that the three years of the war, 1915, 1916, and 1917, with an average dividend of 3.33 per cent., are a long way behind the last three peace years, 1911, 1912, and 1913, with their average dividend of 6 per cent.

Compared with Denmark and Sweden, Norway, so far, has been behindhand in the matter of the cement industry, having only three factories, of which one is barely ready, against eight in Denmark and seven in Sweden, with an annual production respectively of 3,500,000 barrels and 3,000,000 barrels. The three Norwegian factories are all in the southern part of the country, but a new factory is now being built in the north, at Frysford, for an annual production of 300,000 barrels; that a cement factory is needed will appear from the fact that the nearest factory at present is about 1,500 km. distant.

The United States production of cement exceeds the aggregate of the production in all the other countries, and reached last year the record figure of 94,000,000 barrels. The latest available figures for the other countries are as follows: Germany, 30,000,000 barrels; England, 17,000,000 barrels; and France, 8,000,000 barrels. The growth of the American cement industry has been exceedingly rapid, from a production of 42,000 barrels in 1880 to 335,000 barrels in 1890, 8,500,000 barrels in 1900 and 68,200,000 barrels in 1910. The value of the production rose from 126,000 dollars in 1880 to 101,000,000 dollars in 1917. The factories are distributed all over the States, and almost the entire production is consumed within the country, the exports during 1917, in value, only amounting to about 4,000,000 dollars.

## COMING EVENTS.

### WEDNESDAY, DECEMBER 4.

Royal Society of Arts.—Mr. B. Seeborn Rowntree on "Housing after the War," at 4.30 p.m. Lord Henry Cavendish Bentinck, M.P., will preside.

Labour Co-Partnership Association.—Dr. C. Carpenter, M.Inst.C.E., on "The South Metropolitan Gas Company's Experiment in Profit-Sharing and Co-Partnership," at 4.30 p.m. (Meeting in the Kingsway Hall, W.C.)

### THURSDAY, DECEMBER 5.

London Society.—Mr. C. Beresford Chancellor on "The Squares of London" (illustrated with lantern slides), at 4.30 p.m. The Right Hon. Viscount Bryce, P.C., O.M., D.C.L., will preside.

### FRIDAY, DECEMBER 6.

Royal Technical College, Architectural Craftsmen's Society, Glasgow.—Mr. Alex. B. Mitchell, on "Joinery Applied to Ship Work."

### MONDAY, DECEMBER 9.

Trades Training Schools.—Presentation of Prizes by Sir Aston Webb, K.C.V.O., C.B., R.A.

### FRIDAY, DECEMBER 13.

Institution of Mechanical Engineers.—General meeting at 6 p.m. (in the premises of the Institute of Civil Engineers).

Anglo-Hellenic League.—Mr. Thomas H. Mawson, on "The Rebuilding of Athens," at 5 p.m. (Meeting in the Great Hall of King's College, Strand.)

## WATCHERS ON ST. PAUL'S

The story of the men who have been guarding St. Paul's Cathedral against raids during the great war forms an interesting episode, of which some record should be preserved. By a stroke of fortune the years immediately before the war saw the installation of a new elaborate scheme of fire prevention in the building, making it as safe from fire as humanly possible. Protection against incendiary bombs was all that could be afforded it, though we ("The Times") believe expert opinion tended to the view that the effect of explosive bombs, other than those of the heaviest type, might be very serious.

The Watch was organised in 1915, and has been kept in being during the last part of the war, by Canon Alexander, treasurer of the Cathedral, and Mervyn Macartney, the architect, assisted by the clerk of the works and Mr. L. Turner, who has been indefatigable in his services as secretary. It has consisted of architects and other professional men, with guides, vergers, and workmen belonging to the Cathedral staff. The men, trained by the London Fire Brigade, have been on guard every night for more than three years, ten or fifteen being present at one time, and stationed (with fire hose ready) at the posts allotted to them when a warning was received. Many have attended two or three nights a week, the whole country owes them a debt of gratitude for their devoted service. Through the cold and dark nights of winter these men have been on guard at the national Cathedral, often compelled if a late warning came through, to spend the whole night there between two days of work, beds being provided for sleep as they could obtain. A system of telephones from the crypt to the vaulted roofs has made for united action.

It was in September, 1915, that danger to the Cathedral first became pressing. At a quarter to eleven on the night of September 8 a Zeppelin was seen by the watchers on the roofs approaching rapidly from the west in the glare of searchlights, and a great fire began at Wood Street, in the close vicinity of the Cathedral, which for two hours and a half illuminated the whole building, with thousands of people hurried up Ludlow Hill "to see St. Paul's on fire." On other occasions—in June and July, 1916—the Cathedral had very narrow escape from the bombs of Gothas flying in daylight. Twice it was struck, at night by anti-aircraft shells, one of which penetrated, with great force but comparatively little damage, the roof of the South Transept. On June 13, 1917, a small quantity of an explosive bomb which fell within a few yards of the north side of the building was thrown up on to the Stone Gallery where a slight dint was made in the asphalt by the impact of it. This is the only mark which Germany has left on St. Paul's Cathedral.

Late at night on Saturday, November 1, on the eve of the armistice, Canon Alexander, who is said to have missed only one of the raids on London, paid a last visit to the Watch. The men on duty were reported high up above the dome, looking out across the City from the Gallery. The Lord Mayor's Show had passed by during the day with tumultuous shouting; but now in the deserted streets everything was still. Between the mists and the quiet stars Wren's masterpiece, untouched by the ravages of a cruel war, stood out safe and serene.



## THE WEEK'S NEWS FROM FAR AND NEAR.

### *Strike of Reading Gasworkers.*

Reading gasworkers came out on strike November 27 on a question of the employment of non-union men.

### *The Raid Shelters.*

Raid shelters being a thing of the past, contractors are receiving orders for the removal of safety structures, sandbags, etc. Mr. W. G. Beaumont, of Priory Works, Bow, has told a Press representative that the material used in the construction of shelters will be of great use for building purposes.

### *Schools for Tuberculous Children.*

A scheme for providing schools for the education of 2,000 tuberculous children, to begin with, was approved recently by the C. Education Committee. The estimated capital expenditure is £108,000, and for maintenance £58,000. It is hoped that proposals for the establishment of five such schools will be made early in the financial year.

### *London's Lincoln Statue.*

Mr. Weardale has announced definitely that the statue of President Lincoln for London is to be a replica of St. Gaudens's work at Chicago. It is to be sent over to the States by the Anglo-American Society, and will be set up on the site within the Canning enclosure at Westminster, already granted by the Government for that purpose.

### *250,000 New Houses.*

Over 1,000 local authorities have already decided to build houses under the Government's housing programme. The number of houses thus to be built will exceed 200,000. Mr. H. R. Aldridge, secretary of the National Housing and Town Planning Council, states that at Bradford 100,000 houses will be erected, and at Bristol 50,000. Over twenty other municipal authorities have decided to build 1,000 houses, and the remainder from fifty to 100.

### *New Directorships.*

The directors of Bell's United Asbestos Company, Limited, have unanimously elected Mr. J. Alfred Fisher chairman of the company in succession to the late Mr. Albert A. Bell. Mr. Fisher, who retains his position as joint managing director, and Mr. Charles S. Bell, has been connected with the asbestos trade since 1879; previous to this time he was an official of the Midland Railway. Major Kenneth Whitfoot, R.E., has been appointed a director of the company.

### *Housing the Disabled.*

At a public meeting held at Hackney on November 26 in support of the local Disabled Soldiers' Foundation, formed to provide 100 bungalows for disabled soldiers and their families, it was announced by Mr. George Billings that a site of eight acres and a half had been secured in the Ilhamstow district. This had been referred to the Executive Council by Mr. Courtenay Warner for a practically minimal amount. It is the highest site in the neighbourhood, and overlooks the North London Reservoir and Epping Forest. Each bungalow will be provided with a large garden, and in addition to the house there will be a central meeting-hall and medicinal baths. The total cost, estimated at £100,000, is to be defrayed by the manufacturers and residents at Hackney.

### *Egyptian Request for British Catalogues.*

The Under-Secretary of State to the Ministry of Finance, Cairo, informs the Board of Trade that a Commercial Service has been inaugurated by the Ministry. In order to foster closer relations between the United Kingdom and Egyptian traders, the Ministry desire to collect as complete a set of the catalogues of United Kingdom manufacturers as it is possible to obtain. These catalogues may be forwarded direct by British firms to the Commercial Secretary, Ministry of Finance, Cairo.

### *The Prime Minister's Birthplace for the Nation.*

The purchaser of the property recently sold in Ardwick, Manchester, which included the house where the Prime Minister was born, is Sir Graham Wood, an ex-High Sheriff of Lancashire. It is understood that it is his intention to pull down most of the property, and to build in its stead a workshop which will be devoted to the care and training of disabled soldiers and sailors or others disabled in the war, but to keep the Prime Minister's birthplace intact and to hand it over to the Manchester Corporation so that it can be preserved for all time.

### *Reinforced Concrete Bridge for Ontario.*

Among the very few building contracts let in September in Ontario is that for the construction of a high-level reinforced concrete arch bridge across the Otonabee River, Peterborough, Ontario. The bridge will have a roadway 56 ft. wide carrying two tramcar lines. The distance between kerbs will be 42 ft., with two 6 ft. sidewalks. While the total length of the bridge will be about 1,800 ft., the bridge proper, including approaches, will be approximately 1,000 ft. long. The estimated cost of the bridge is 300,000 dolrs. The bridge, when completed, will connect the main part of the city with the business and residential district across the Otonabee River. The work will probably be completed by the end of 1919.

### *£5,000,000 Scheme for Swansea Docks.*

Arrangements have been made for large industrial developments at Swansea, and work is to be proceeded with at the earliest possible moment. All the land between Swansea East Dock and the Neath River has been taken, and upon this Messrs. Baldwins are to construct steel and ore-treating works and blast-furnaces. Fifteen hundred acres of the land have been secured for colliery enterprise, and trial borings are at present taking place on the Crumlin Burrows, near Danygraig Station on the Rhondda and Swansea Bay Railway. It is estimated that the output of coal when the shafts have been sunk will be 1,000 tons a day. In the same area, as indicated, the Anglo-Persian Oil Company are to erect refineries and general oil treatment plant, which alone will absorb over two millions. Altogether some five millions of money are to be expended in the development of this area. There is a large scheme for the provision of workers' dwellings in the immediate neighbourhood, and 2,000 houses will be proceeded with as a first instalment. The Swansea Harbour Trust have concluded an agreement with the Anglo-Persian Oil Company, as the result of which the Trustees will receive from £40,000 to £60,000 a year revenue from this company's operations alone.

### *National Kitchens and the New Housing.*

Alderman Spencer, Director of National Kitchens, speaking at the Institute of Public Health on November 27, said that the new housing scheme should include plans for national kitchens. The strongest prejudice against these kitchens had been found among the working classes, who were the most conservative people in the country. The kitchens that had failed had been the distributing kitchens. Unquestionably restaurant kitchens were what was wanted. They must be run and advertised on business lines, and the amateur element must be eliminated. He trusted that when the town-halls, libraries, and public baths now in use as kitchens reverted to their normal capacities, suitable buildings for kitchens would be available in the main streets of all towns.

### *Handbook on Road Transport.*

A very useful Handbook has been issued by the Road Transport Board, price 2s. net. It combines full information concerning the constitution, functions, and policy of the Board, and two large key maps of England, Wales, and Scotland. The maps clearly indicate the administrative divisions into which Great Britain has been divided, and show the headquarters of divisions and of transport areas. In the Handbook itself is given a mass of classified detail concerning the divisions and transport areas, together with the personnel of the various committees and officers. The headquarters of the Board are at 9, Berkeley Street, London, W.1. The Handbook may be obtained through any bookseller or direct from H.M. Stationery Office, Imperial House, Kingsway, London, W.C.2, and branches.

### *After-War Schemes for Derbyshire.*

At a recent meeting of the Chapel-en-le-Frith Rural District Council important schemes for the district were considered. A sub-committee was appointed to report on the question of the suggested purchase of a road a mile in length from Whaley Bridge to Bugsworth, which is at present private property. A resolution was passed to build houses for the working classes in Chapel-en-le-Frith, Whaley Bridge, Chinley, Bamford, and other places in the district. The Bamford and Thornhill sewerage was dealt with, and it was decided to invite Dr. Barwise, the county medical officer, to meet Dr. Haman, of Buxton, and the local councillors at Bamford to inspect and discuss the site for the sewage outfall works in connection with the Bamford and the County Asylum sewerage scheme. Sanction was given for the expenditure of £583 on a water supply at Harpur Hill, Buxton.

### *Health Ministry Plans.*

A memorandum [Cd.9211] summarising the object and effect of the provisions of the Ministries of Health Bill was issued on November 27. It is pointed out that the transfer of the powers of the Insurance Commissioners for England and Wales is subject to conditions, one of which enables the Medical Research Committee to be reconstituted under a Committee of the Privy Council on the lines of the Advisory Council already established for the encouragement of scientific and industrial research. Consultative Councils, including both men and women,



are to be set up to advise and help the Minister on various subjects, including medical questions, health questions specially affecting women, questions relating to the administration of the Insurance Acts, and financial questions. Care will be taken to provide for joint working arrangements between the several councils in matters of common interest.

#### *New Town Hall for Morecambe.*

Morecambe Town Council have decided to obtain competitive designs for a new Town Hall, to be erected on the Poulton Hall Estate.

#### *Resumption of Building in America.*

The United States War Industries Board announces the removal of all restrictions on non-war construction. All building operations may now proceed without permits.

#### *Housing at Tredegar.*

At a Tredegar Council meeting it was reported that Mr. A. F. Webb, the architect for the Council's housing scheme, had a sketch plan of the houses ready, and a meeting was fixed to inspect it. It is proposed to erect 500 houses.

#### *Memorial Sailors' Rest.*

The Dowager Lady Dimsdale, President of the Ladies' Guild of the British and Foreign Sailors' Society, states that the society wants to raise £100,000 for a Sailors' Rest and Boys' Hostel to be built in the Port of London, £50,000 being for the site and building and £50,000 for an endowment fund.

#### *1,700 Houses for Immingham.*

At the fortnightly meeting of Grimsby Rural District Council, the Clerk said that he had received completed returns of the estimated requirements for all the parishes but Immingham. The railway company, dock company, and other concerns there estimated their needs at 1,700 houses. It was resolved to have a special meeting of the Immingham Committee to complete the scheme.

#### *Flats for Disabled Officers.*

Following a visit which the Queen paid to St. Mark's Court, St. John's Road, the first block of flats for officers' widows and disabled officers provided by the Housing Association for Officers' Families, the King and Queen have each subscribed £100 to the funds of the Association. St. Mark's Court consists of twenty-four flats; sixteen flats are in course of construction at Hampstead. The Association has just purchased six big houses at Cheltenham, which will be converted into eighteen flats, under the supervision of Mr. P. Morley Horder, architect to the Association, as soon as the necessary building licences can be obtained. It has been virtually decided to acquire and to convert into flats a similar block of houses at a popular seaside place, where there are especially good educational facilities for the children of fallen officers.

#### *Trade Union Rivalries.*

The subject of the future of the iron and steel industry was dealt with by Mr. M. L. Simpson in the course of his presidential address at the opening meeting of the session of the West of Scotland Iron and Steel Institute, held in the Royal Technical College, Glasgow. In the steel trade, he said, the relations between the operatives and the employers were what were called amicable, and a general plea

for co-operation had been voiced for the time following the war. He thought that co-operation was absolutely necessary, but it should be uniform first of all amongst the workers themselves. There was too much competition and rivalry between the different trade unions, which led to inefficiency. Lines of demarcation should not exist, and each worker should realise that the prosperity of the industry lay in working each for all and all for each. In order to obtain true co-operation he was of opinion that all the workers should sink their internal jealousies and animosities and become members of one representative union, empowered to negotiate for the workers as a whole.

#### *Restoration of Roads.*

The restoration of roads to their pre-war condition, and the relation of such work to the problem of demobilisation, were discussed at a meeting of the County Councils Association at the Surveyors' Institution, Westminster, on November 27, the following resolutions being adopted: "That it is desirable, in the interests of the roads of the country, that all technical road officials and assistants should be demobilised at the earliest possible moment in order that their services may be utilised by road authorities in the preparation of schemes for road works, which will then be ready to be proceeded with on the general demobilisation of labour; that county councils should have the same priority in regard to labour as proposed for borough and district councils and for contractors; that it is most desirable that all existing embargoes on road management, materials, and transport should be totally removed, and all the rights, powers, and duties of road authorities completely restored at the earliest possible moment; that the present system of control of materials of transport should be continued only until such embargoes can be removed."

#### *Law as to Boiler Inspection.*

The South Devon Granite Company, Ltd., was summoned, at Tavistock Petty Sessions, for having, on October 3, at Merrivale Quarry, Whitchurch, used two vertical crane steam boilers which had not been examined thoroughly during the previous fourteen months. Mr. T. Boydell, H.M. Inspector of Mines, Truro, prosecuted, and evidence was given by Mr. Richard King, H.M. Inspector of Quarries. Mr. C. L. Duke, managing director, represented the company, and pleaded not guilty. Mr. King stated that on October 3 he was at the quarry, and on examining the general register found no thorough examination, as required, had been made of the boilers during the past fourteen months. The register showed that the last thorough examination was made on June 13, 1917. Mr. Duke said if the company had noticed the period had elapsed it would have had the boilers examined. The boilers had not been in constant use. Mr. Boydell submitted that the boilers were in use, although they might have been idle occasionally. The Bench fined the company £2 in respect of each boiler.

#### *A New Salonika.*

Mr. Thomas H. Mawson, city-planning expert to the Greek Government, gave an illustrated lecture at King's College, London, on November 22, on "The Rebuilding of Salonika." Mr. Mawson said that Salonika was the natural gateway to the Balkan States; a large part of it had been destroyed by fire, and the city-planner was

faced with the immediate task of rebuilding it so that the people might be housed as quickly as possible. Mr. Venizelos had told him to regard the site of the fire as a clean sheet of paper on which to work. Whole blocks of buildings would be designed as Nash designed Regent Street before it was remodelled. The ancient thoroughfare, Rue Egnatie, 120 ft. wide, would become a central longitudinal boulevard intersecting the city at the Porte Varda end and a great terminal railway station would be placed, with an electric underground line connecting with another railway terminus at the east end of the city. The width of the Rue Egnatie permitted of a central boulevard of trees and on this new boulevard would be erected the new city hall, the new law courts, and the new cathedral, making a perfect trinity of architecture. The plan had been designed on the model of a spider's web, which enabled the spider to get from one point to another without loss of time, energy, and momentum.

## OBITUARY.

#### *Mr. Adam Adams, of Fletton.*

The death took place on November 1 at Fletton, near Peterborough, of Mr. Adam Adams, who was for twenty-five years manager of the London Brick Company at Old Fletton. It was under his direct supervision that the company built a brick-kiln capable of holding a million and a half bricks. Two of Mr. Adams' inventions are said to have revolutionised the art of brick-making.

#### *Mr. Charles John Kohler.*

Mr. Charles John Kohler, of Hui Little Common, Bexhill, retired architect and surveyor, who died on June 27, leaving property of the gross value of £10,100 with net personalty £8,320, has left a bequest, subject to the life interest of his wife: £1,000 each to the National Society for the Prevention of Cruelty to Children, the Waifs and Strays Society, Miss Agnes Weston's Sailors' Homes, and Dr. Bernardino's Homes; £500 to Hastings Hospital; and £250 to the Cripples Homes.

#### *Second-Lieut. G. M. Dunn, R.G.A.*

Second-Lieut. Gerald Morton Dunn, R.G.A., who was killed in action on October 13, was the younger son of the late William Newton Dunn, F.R.I.B.A., of Glenfeulen, Reigate, Surrey, and of Mr. W. Newton Dunn, of The College, Earlswood Common, Redhill, Surrey. Born in 1884, at Tulse Hill, he was educated at Mr. Wathen's Preparatory School, Kew Town, Brighton, at Charterhouse, and at King's College, London. Subsequently he was articled to his father, Mr. W. Newton Dunn, F.R.I.B.A., and in 1901 and 1902, obtaining his A.R.I.B.A., was taken into partnership. On the death of his father in December, 1914, he became head of the firm, and later on graduated as a Fellow of the Surveyors' Institute. He was, like his father, honorary consulting architect to the Earlswood Asylum, was a member of the Cathedral Lodge of Freemasons, and of the Haberdashers' Company. He joined the Army as a private in November 1916, was transferred into a Cadet Corps in April, 1917, and on June 26, 1917, was given a commission in the R.G.A. After serving in two or three home camps, he was sent out to the front on April 1, 1918, where he remained till he was killed.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

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## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in saving the efforts of the Government Paper Controller to eliminate waste. This they may do in one of two ways—*

*By placing a direct subscription for the Journal with the Publisher, or*

*By placing with a newsagent an order for its regular delivery.*

### Mr. Lloyd George's Reconstruction Policy.

His "statement of policy and aims" issued to the public, in which it was published last Friday, Mr. Lloyd George sets forth his views on increased production, profit-sharing, improved housing, health, education, child welfare, rural development, transport, and industry—all which subjects are necessarily of more or less intense interest to so vast and various an industry as that of building. Luckily, Mr. Lloyd George does not flinch from truisms, nor hesitate to give them their categorical expression when the occasion arises. The baldest of truisms, for example, to say, as he does, that "You cannot have improved wages and improved conditions of labour all round unless you increase production": but, nevertheless, a simple matter of fact cannot be made too plain or too prominent—it is the self-evident things that are neglected where neglect is least justified. It is never stated that "the war has demonstrated" that increased production can be secured through improved organisation. That it should have taken a war to demonstrate that this theory was not merely a "wild surmise" is strange. It is nevertheless a fact that only the huge dynamic force could overcome the inveterate inertia into which our country had sunk before the war. "By improved organisation, by stopping waste, by improved machinery, by the suspension of the old restrictions on output, the output of the engineering industry was increased enormously. . . . In spite of the fact that over six million of young men have been taken into the Army and Navy, the output over the whole field of industry has been increased. . . . There are gigantic arrears to make up in this country in every department of manufacture." This, again, is very patent to the dullest observer; who, however, is not likely to overlook a fact that, though it is of great importance, is too often ignored—that all these things were wrought under the most powerful stimulus conceivable. We were all working or fighting for our lives.

### Productive Intensity.

These prodigies of production cannot be continued indefinitely; the visible necessity for them has ceased. Air-raid and the ambulance wagons made palpable the need for strenuousness. Under less exciting conditions, activity will subside. Yet it need never reach the low ebb to which it had slackened before the war. We know that we have still to fight for our existence, although we do it under less arduous conditions; and the country is pretty much in the position of the man who, when he is warned, must take certain steps to stave off an insidious disease, neglects the advice; whereas a more dramatic and more immediate menace to his existence would be met with the most energetic effort of which he was capable. In other words, the war was a convulsion,

met by a convulsive fit of extraordinary energy, which died down with the occasion. But while it is hopeless to expect the maintenance of war-time strenuousness in time of peace—that the hot pace of the short sprint can be maintained over the long course—it is not unreasonable to suppose that war-time exigencies have tuned up the industrial machine to a higher pitch of efficiency than it could otherwise have attained, and that the tonic effect will be permanent, even though it falls somewhat short of the war-time standard.

### The Good Times Coming.

It is Mr. Lloyd George's idea that enormously increased production is compatible with higher wages and shorter hours. Possibly he is prepared to prove his paradox. Surely he would not raise false hopes whose non-fulfilment would bring down upon him the heaviest penalties of unpopularity. True, all is pious aspiration—"This is the new spirit I want to see breathed into industry—that increased production has not for its end the enrichment of employers, but the enrichment of all classes of the British people." We can only hope that Mr. Lloyd George sees his way clear to a realisation of the social and industrial regeneration of which he speaks so freely. He gives, however, this definite promise: "I will work hard for any scheme of profit-sharing which provides the workman with a real inducement to increase production." Houses, it is true, are not yet built by machinery: but the Premier's precept that "We want better and ever better machinery, not only to ease the burden of the workman, but to shorten his hours and to increase his wages is applicable in other than the literal sense of the word machinery. All are agreed on this aim, but the real question is how it can be fulfilled. Profit-sharing, in which Mr. Lloyd George seems to see salvation, has not been hitherto a conspicuous success, and the methods of its application must be considerably modified before it can justify the optimism of those who put their faith in it as an industrial panacea. Hitherto it has been found to be one of those beautifully symmetrical theories that in actual practice break down far more hopelessly than many a much more rough-and-ready method. With regard to housing, the Premier's announcement contains nothing new—he simply reaffirms the need for more and better dwellings for the working classes, reiterating the denunciation that "housing conditions in this country are a disgrace to the Empire." Nor was there anything new to say on the related subjects of health, education, and child welfare. On transport, however, there was a specific assurance that plans for "opening up the resources of the country and spreading the population into healthier areas" have been already prepared, and presumably will be put into operation at the earliest opportunity: which is all very grateful and comforting to architects and contractors, who foresee that the coming years of fierce activity will atone for the years of famine that they have so patiently endured.

### State Aid for Public Utility Societies.

A report issued on November 29 by the Housing (Financial Assistance) Committee appointed by the Minister of Reconstruction increases the value and interest of Mr. Ewart G. Culpin's article, in our issue of November 20, on "The Nature of a Public Utility



Society"; for the report deals specially with the position of public utility societies with regard to housing. It is recommended by the Committee that loans of 80 per cent. of the value of any housing scheme carried out by such societies should be made by the State at the lowest rate at which it can lend without loss, and that advances might be made during building, with repayment spread over fifty years. Eighty per cent. being visibly larger than the seventy-five offered to local authorities, the Committee evidently imagine that the discrepancy will create jealousy; for they recommend that "the State should bear 75 per cent. of the loss and that local authorities should be empowered to subscribe to the remainder." It is not at all clear what this means. If a public-utility society may borrow 75 per cent. from the State, but is dependent on the local authority for the remaining five per cent., the advantage of the higher figure is not clearly obvious. In many cases, screwing it out of the local authority would be a tremendous task, and, on the whole, it would appear that the extra five per cent. is illusory and unsubstantial. That it will not be an irresistible temptation is foreseen by the Committee, who express the strong opinion that "if the State wants houses the State should bear the whole of the loss incurred by a society in building at once, otherwise there will be a temptation to wait till building is cheaper." It is, indeed, ridiculous to suppose that that five per cent., even if it were a firm figure, could redress the balance as between the local authority and the utility society; for whereas, in case of loss, the authority can recoup itself out of the rates, the society has no such stand-by, but must face unaided the very considerable risks of liabilities accruing from increased cost of building, from increased dearness of money, and from other contingencies. But with a general election in progress, it is possible to attach too much importance to the recommendations of a Committee that may be immediately repudiated by a Government not responsible for appointing it. Candidates for Parliament should be closely questioned on these and other important points in the housing question.

#### Public Utility Societies and Housing.

Now, according to Mr. Culpin, "a public utility society has very little statutory definition." It occurs, he says, only once in legislation—in the Housing and Town-planning Act, where it is stated that, for certain purposes narrated in the Act, "a public utility society means a society registered under the Industrial and Provident Societies Act, . . . the rules whereof prohibit the payment of any interest or dividend at a rate exceeding £5 per centum per annum." Of the many and various existing societies corresponding to this definition, few if any are qualified by experience or personnel to undertake the onerous and dubious business of national housing. Building societies, it is notorious, do not build, and most other societies governed by the last-mentioned Act have at best but a languid and an indirect interest in house property; always excepting the co-operative societies, which have built very extensively, and have done much to encourage house-owning, house-pride, thrift, character, and independence among the working classes. But it is because of this sturdy addiction to self-help that the co-operative societies are formidable whether as friends or as foes. If they made up their minds to smash the housing movement, or if they were determined on capturing it, the result in either case would be calamitous. We do not attribute any such intentions to the co-operators: we cite them to suggest the wisdom of safeguarding the housing movement from capture by any particular body, unless it were some "purpose-made" *ad hoc* body, having none but national housing interests to serve. Of course, one does not forget the existence of the Local Government

Board, which, indeed, has acquired a vast amount of housing experience, but no doubt a new national board of housing would better serve our turn, and would be able to arrange satisfactorily the incidence of State aid.

#### Factory Improvements Inside and Out.

Concerning factory construction, a further word in two seasons will be acceptable. It should not be forgotten that, even in factory design, appearance counts for much; private judgment being mostly sufficient. If interior arrangement counts for much in facilitating production, both directly by promoting the orderly sequence of operations, and indirectly by promoting the health, comfort, and productive capacity of the workers, a good elevation scores heavily in several directions. It makes the proprietor proud of his works, greets the workers with a smile instead of a frown, and—especially if near a trunk line of railway—as most factories must be—attracts customers instead of repelling them. Our American friends know this right well, and design accordingly: some of our utilitarian buildings are of quite handsome design and are exemplary in planning. It was from America that we received the impulse to build in like manner; as we have already said, and as, with emphasis on a particular object, we repeat, this class of building is the only one in which marked progress has been made within the past decade or so.

#### Royal Academy War Memorials Committee.

A circular issued by the Royal Academy of Arts War Memorials Committee announces the formation of an executive committee and gives the names of four-and-twenty members. Among these there are four architects—Mr. Reginald Blomfield, Mr. E. L. Hare, Professor W. R. Lethaby; and Sir John Webb. Sculptors, painters, and three belted earls (to say nothing of an editor), make up an exceedingly strong and a sufficiently composite committee of practitioners and "kernoozers," as the old art jargon has it. Such a committee might well form the nucleus of a national fine arts advisory council, attached to the Ministry of Arts, which should exercise a so-called benevolent despotism in all matters pertaining to public amenity. That, however, is a question for the future. What is of immediate interest is that the Committee is prepared to give advice on all questions relating to "the scope and character of memorials." In the circular it is generously recognised that the Arts Association was early in the field with an organisation for similar objects; while diocesan committees are assisting the clergy to secure a high standard of memorials in churches. These local bodies will, if wisdom rules, act independently of each other, and the R.A. Committee should bind them together by mutual help and assistance—rule over them as a so-called benevolent hierarchy.

#### A Champion of Housing and Town Planning.

If it is the intention of Mr. John Burns to resign from Parliament, every lover of London, every town-planner throughout the kingdom, will regret the loss of so sagacious an adviser and so doughty a champion. His service to the State deserves a statue, and ingrate Battersea, which has rewarded his twenty-six years of strenuous work by giving him the cold shoulder, does not deserve to get it, although in course of time, when things are seen in a different perspective, the entire population of that mean and unlovely borough will be clamouring to have a bronze (it must be bronze) effigy of the most enterprising citizen it has ever had or ever will have set up in an interesting but shabby park.



## POLAND'S TIMBER RESOURCES.

BY ARTHUR E. GURNEY.

P to comparatively recent times the Polish territories still possessed very extensive and dense forests, but some time before the war these already dwindled down to the minimum considered indispensable to salubrity, or had even dropped below it. According to Roscher that minimum is 10 per cent. of a country's superficial area, and in 1913 the average for all the ethnographically Polish territories collectively was about 21 per cent. The portion was highest in the part of Polish Silesia under Austrian rule—the smallest portion of the said territories—where it amounted to 31.1 per cent., and lowest in the Kingdom of Poland, commonly called "Russian" Poland. In this, by far the largest, portion of the Polish territories, forests represented 18 per cent. of the total area, or even less, relatively, than in the Grand Duchy of Poznan (in German, "Provinz Posen") where, although it is an entirely agricultural area, they accounted for 19.9 per cent. of its superficial extent.

In the first half of the nineteenth century the forests of the kingdom still constituted about 30 per cent. of the total area, but during the second half they diminished very rapidly. The forests in this part of Polish territories, unlike those of the districts under Austrian and German rule, were not protected against the cupidity of improvident owners or speculators by special laws—on the contrary, the Russian authorities favoured their destruction, by which any possible future insurgents would be deprived of the shelter which had greatly assisted those of past revolutions in resisting the Government forces. Finally, however, the depletion of the kingdom's timber resources proceeded at a rate which threatened to destroy them completely; and to prevent this the Russian Government, in the beginning of the present century, promulgated a law making permission to cut timber conditional on the afforestation of new land equal in extent to those denuded. Like other Russian laws, this, too, had loopholes making evasions possible, but, on the whole, forestry conditions were greatly improved, and, but for the war, the timber resources of all the Polish territories would have enjoyed protection commensurate with the importance of the part they played in the country's economic life. This was undoubtedly considerable, and a few figures will prove.

The average quantity of various kinds of timber and wooden goods annually exported by the kingdom during the three years 1909-11 was 635,000 tons, valued at £2,077,600, while Galicia's timber exports in 1913 represented the sum of £3,189,000. The bulk of these exports consisted of baulk timber, which, in the first instance, accounted for 71 per cent. of their weight, and in the second represented as much as 79 per cent. of their value. By far the greatest quantities of this timber were exported to Polish provinces under Prussian rule, which possessed flourishing woodworking industries whose annual output was valued at £6,000,000, and which employed 40,000 hands. In the kingdom and in Galicia these industries were much less developed, employing 17,000 hands in the former and only 2,000 hands in the latter areas, while their output was worth £2,400,000 and £2,120,000 respectively. In the present war, although it has been the cause of sufferings in all the Polish territories, has here created such devastation as in the kingdom. It is in these very areas—where the need of materials for reconstructions will be greatest—that the timber resources have been most seriously depleted, and this not so much in consequence of military operations as through the systematic spoliation

practised by the Powers in occupation, especially by Germany.

With what ruthlessness this destruction of Poland's national wealth has been carried out is shown in a series of articles which appeared recently in the "Kurjer Lwowski" (Lemberg Courier). According to these the "excessive and relentless felling of timber, which has brought the Polish forests to the brink of ruin, was inaugurated by the authorities in occupation immediately after the expulsion of the Russians, i.e. in the second half of 1915." In the portion of the kingdom now under German occupation forests about 39,500 acres in extent had been completely destroyed by January, 1917, and, in addition, 3,200,000 trees had been taken from other sources in the same areas.

The imperial preserves were first attacked, and in a very short time the dense forests of Kurpiow and Mysrywiec, noted for the variety and magnificence of their ancient timbers, were virtually wiped out. A similar fate befell the renowned imperial forests at Skierwiewice, which covered an area of 12,200 acres. The forests owned by Russian officials next received the attentions of the German authorities, and after these the timber resources of private individuals were requisitioned "for the military requirements of Germany and Austria-Hungary." These were made to include the reinstatement of property destroyed, at the beginning of the war, by the Russians in East Prussia, for by February 20, 1917, that province had been supplied, for the purpose mentioned, with 71,000,000 cubic feet of timber seized in the kingdom of Poland—a country itself much more urgently in need of rebuilding than the enemy province for whose benefit it has been robbed.

The sawmills in the Polish districts that were occupied by the Germans are said annually to turn out at least 212,000,000 cubic feet of soft timber materials, and, as these represent only about 60 per cent. of the raw stuff required for their production, this means that the quantity of baulk timbers annually handled by the mills must be quite 353,000,000 cubic feet, or about four times what a rational exploitation of the country's resources would permit. And even this quantity does not represent the whole amount of timber annually destroyed by the Germans in the Polish areas occupied by them, as it does not include the materials used in the preparation of telegraph poles, railway sleepers, and road timbers, and the manufacture of turpentine, lignose, etc.

As a consequence of these scandalous depredations Poland is said, already in 1917, to have possessed fewer forests, relatively, than Belgium, Spain, and Italy. As against Russia's 4.57 acres of forest per head of population, Hungary's 1.16, and Germany's 0.62 acre, the proportion in the government (province) of Warsaw had dropped to 0.37 acre per inhabitant.

Lithuania, whose forests still covered 32.4 per cent. of its superficial area before the war, has fared no better than the kingdom. Here, according to official German statistics, the timber floated down the Niemen alone during the first season after the occupation, that is in 1916, was valued at 11,840,234 marks (nominally about £592,000). Since then, not only has the ancient forest of Bialowieza—best known as the home of the last remaining specimens of the European bison—been destroyed, but private forests have likewise been devastated. Even the plantations created on sandy wastes to protect adjoining cultivated areas have not been spared.

The Austrians are said not to have proceeded quite so ruthlessly with the destruction of timber in the



Polish territories occupied by them. "It is true that here, too, requisitions have been made whose exact extent it is as yet impossible to ascertain, not only in imperial preserves, but private forests also. Here, too, timber has been exported in enormous quantities, or used locally for military requirements. But here at least the requisitions were not carried out ruthlessly—without limit, without control, and without indemnification—as has been the case in the territories in German occupation."

The entire absence of figures on the Austrian requisitions of Polish timber is no doubt accounted for by their having been suppressed by the Austrian censor, under whose jurisdiction the articles referred to were published.

Whatever the actual extent of the damage wrought in Poland by the Central Powers may be, the country will be deprived, for some considerable time to come, of a by no means negligible source of revenue. In addition, the destruction of most of its timber reserves will enormously aggravate the difficulties of the urgent task of rebuilding the hundreds of Polish towns and villages which have been demolished by the war. It would seem only fair that the materials for reconstruction and reforestation should be supplied, from their own resources, by the Powers responsible for the devastations, and it is to be hoped that a stipulation to that effect will be made one of the conditions of peace.

## THE R.I.B.A. AND RIGHTS TO LIGHT.

THE President, Mr. Henry T. Hare, took the chair at a general meeting of the Institute held on Monday, December 2, to consider a Bill which has been drafted by the Council to amend the law relating to the acquisition of light. The following is the draft:—

### ACQUISITION OF LIGHT (RESTRICTION) BILL, 1918.

#### *An Act to Amend the Law Relating to the Acquisition of Light.*

1. (1) After the commencement of this Act a right to the access and use of light to or for any building shall not be acquired by the mere enjoyment thereof for any period of time, and no presumption of a grant of a right to the access and use of light shall after such commencement arise by reason only of the enjoyment of such access and use for any period.
- (2) This section shall not apply to any right to the access and use of light which shall have come absolute and indefeasible before the commencement of this Act, or to any inchoate right to the access and use of light which shall have been acquired by the actual enjoyment thereof for the full period of twenty years before the commencement of this Act without interruption, and accordingly every such inchoate right shall be capable of becoming absolute and indefeasible in the same way as if this Act had not been passed.
2. (1) Section three of the Prescription Act, 1832, is hereby repealed, but this repeal shall not revive any custom referred to in that section.
- (2) Nothing in this Act shall operate to bring any right to the access and use of light to or for any building within the provisions of Section 1 of the said Act of 1832.
3. This Act shall not apply to Scotland or Ireland.
4. (1) This Act may be cited as the Acquisition of Light (Restriction) Act, 1918.

- (2) This Act shall come into operation on the first day of January, one thousand nine hundred and nineteen.

The President proposed a resolution authorising Council to take such steps as might be possible secure the passing of the Bill. He remarked that present law on the subject was a constant bugbear to architects, particularly those whose work lay mainly in London or in large provincial towns. It hampered their designs and restricted the proper development of their plans, leading in a large number of cases to mutilation and disfigurement of many fine buildings. The English law as it stood to-day was apparently based on the presumption that because a man enjoyed some benefit to which he had no right, and which he had given no consideration for a period of years he, *pro facto*, became entitled to that right in perpetuity. The vague and indeterminate nature of the law was to some extent regularised by the Prescription Act in 1832, but at the present moment it was almost entirely made up of the rulings of judges in cases which had come before them. He did not think there was any division of opinion amongst those who understood the matter that the present state of the law was unsatisfactory and needed amendment.

The Institute had made several attempts to take the question seriously, but for one reason or another nothing had been done. The war, however, among other things, had led to their giving consideration to various defects in our laws, which led to useless and avoidable litigation, and he was told that amendments had been drawn up which it was proposed to bring forward as soon as possible for the consideration of Lord Chancellor, and that many of them were likely to be adopted as Government Bills.

The Bill they were now considering came within the category, and there was a distinct prospect of its being dealt with in that way. The object which had been borne in mind in drafting the Bill was to secure that owner of a building site should be at liberty to develop it to the full extent of its capacity within the limits of the Building Acts, and subject to no disability imposed by his neighbours without agreement and consideration received. The Bill secured that no rights of light should be acquired after the passing of the Act; but it was not retrospective, and did not interfere in any way with rights already acquired. They would have liked to extend the scope of the Bill so as to deal with existing rights by the establishment of a technical tribunal, but they were advised by counsel to confine it to what stood to the one proposition and leave the question of existing rights for future consideration. He thought it would be agreed that if they secured the passing of the Bill, they would have made an important advance in the direction of simplifying the architect's work and promoting the interests of architecture.

Mr. Walter Cave, F.R.I.B.A., seconded the motion.

A discussion ensued, in which Mr. W. H. White, F.R.I.B.A., Mr. Delissa Joseph, F.R.I.B.A., and other speakers urged the desirability of incorporating in the Bill a clause to ensure some measure of amity between neighbour and neighbour; the latter suggesting that this might be done by the setting up of a Board of Referees, with power to settle disputes.

The President, in reply, said he did not think Mr. Joseph understood the idea which was at the back of the Bill—it was that every man must so build that he acquired all the light he wanted either from his own property or from the public street—he must not prevent anything in building his own property which would prevent his neighbour from developing his property to the full extent. With regard to the establishment of a tribunal to deal with existing rights, he quite agreed that it would be desirable to have such a body, possibly on the lines of the Dean of Guild Court.



## COUNTY BOROUGH OF DUDLEY BLOCK PLAN OF PERMANENT HOUSING SCHEME AT BREWERY FIELDS



**THE HOUSING SCHEME** AS SHOWN ON PLAN IS FOR THE DEVELOPMENT OF THE EASTERN PORTION OF THE LAND PURCHASED FROM THE EARL OF DUDLEY.

THE AREA AT PRESENT DEVELOPED FOR PERMANENT HOUSING IS ABOUT 50 ACRES. THE NUMBER OF HOUSES IS 500 WHICH EQUALS 10 HOUSES PER ACRE. THE NEW ROADS CONSIST OF A MAIN AVENUE 40 FT. WIDE FROM 25 YARDS TO THE BIRMINGHAM RY & VARIOUS INTERSECTING STREETS 30 FT. WIDE. ALL NEW STREETS ARE LAID OUT ON THE TOWN PLANNING AND GARDEN CITY PRINCIPLES.

CARriage ways WITH GRASS STRIPS PLANTED WITH TREES ON EACH SIDE OF THE CARriage ways & FOOTWAYS OF WIDTHS VARYING IN ACCORDANCE WITH THE WIDTHS OF THE STREETS.

A PORTION OF LAND HAS BEEN RESERVED FOR ALLIEMENT GARDENS, OTHER PORTIONS ARE LAID OUT AS OPEN SPACES.

THE FOLLOWING ARE THE DIFFERENT TYPES OF HOUSES WHICH HAVE BEEN ADMITTED. EACH HOUSE HAS A KITCHEN AND BATH.

**TYPE A. COMPREHENSIVE—**  
LIVING ROOM 14.0 x 12.0  
3 BEDROOMS 17.3 x 10.0  
10.8 x 9.0  
8.0 x 7.6

**TYPE B.**  
LIVING ROOM 14.0 x 12.9  
3 BEDROOMS 16.0 x 10.6  
11.8 x 9.4  
8.6 x 6.6

**TYPE C.**  
LIVING ROOM 15.0 x 14.6  
3 BEDROOMS 19.6 x 11.0  
11.0 x 9.0  
9.0 x 7.0

**TYPE D.**  
LIVING ROOM 15.2 x 10.0  
3 BEDROOMS 18.0 x 11.9  
12.2 x 11.9  
11.3 x 9.0  
10.0 x 6.6

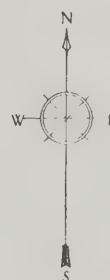
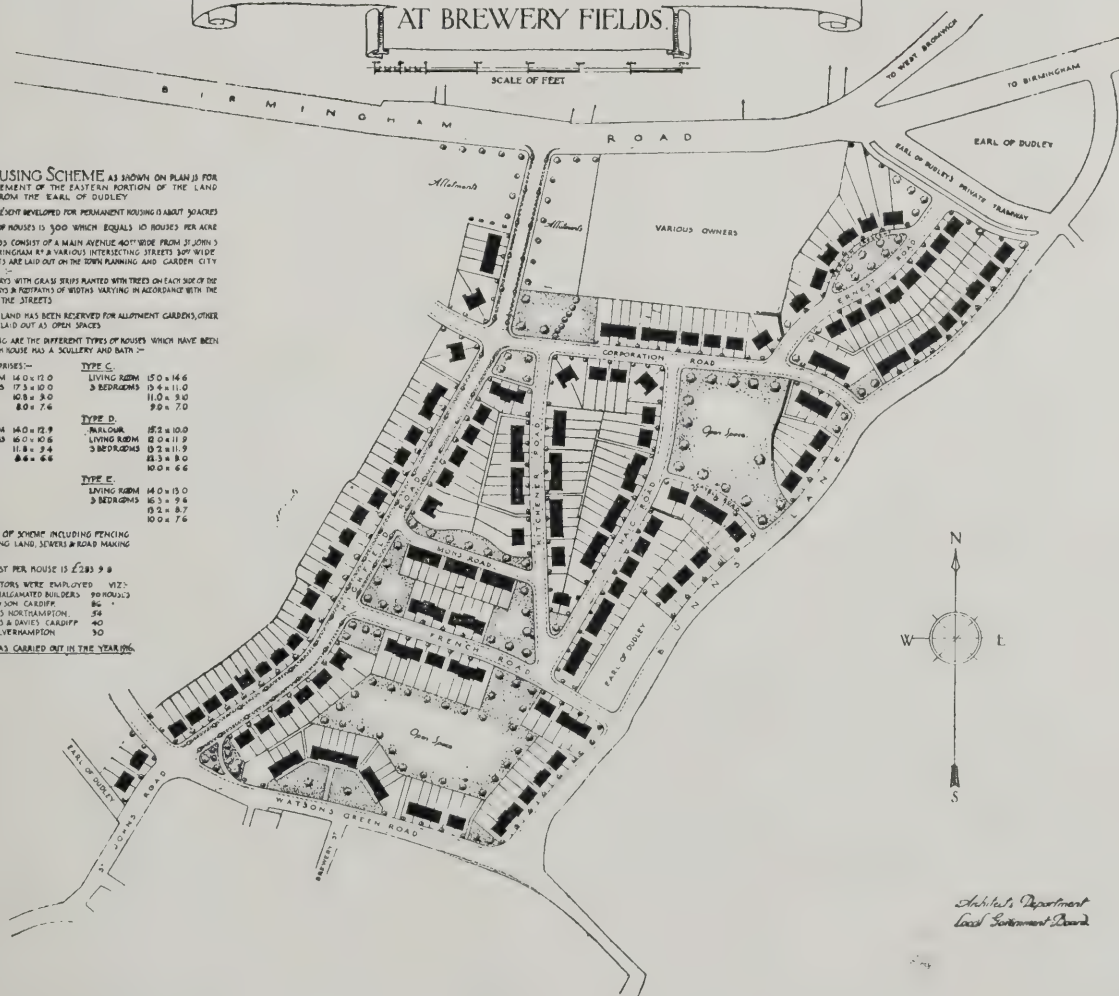
**TYPE E.**  
LIVING ROOM 14.0 x 13.0  
3 BEDROOMS 16.5 x 9.8  
11.5 x 8.7  
10.0 x 7.6

TOTAL COST OF SCHEME INCLUDING FENCING BUT EXCLUDING LAND, SEWERS & ROAD MAKING IS £85,000.

AVERAGE COST PER HOUSE IS £170 9 8.

FIVE CONTRACTORS WERE EMPLOYED VIZ:—  
THE ROBERT AMALLAWAY BUILDERS, 90 BROADWAY,  
WIMBORNE & SON, CARLISLE, 84  
MR THOS HIGGS NORTHAMPTON, 54  
MR THOS JENNINGS & SONS, CARLISLE, 40  
MR RICE WOLVERHAMPTON, 30

THE WORK WAS COMPLETED IN THE YEAR 1916.



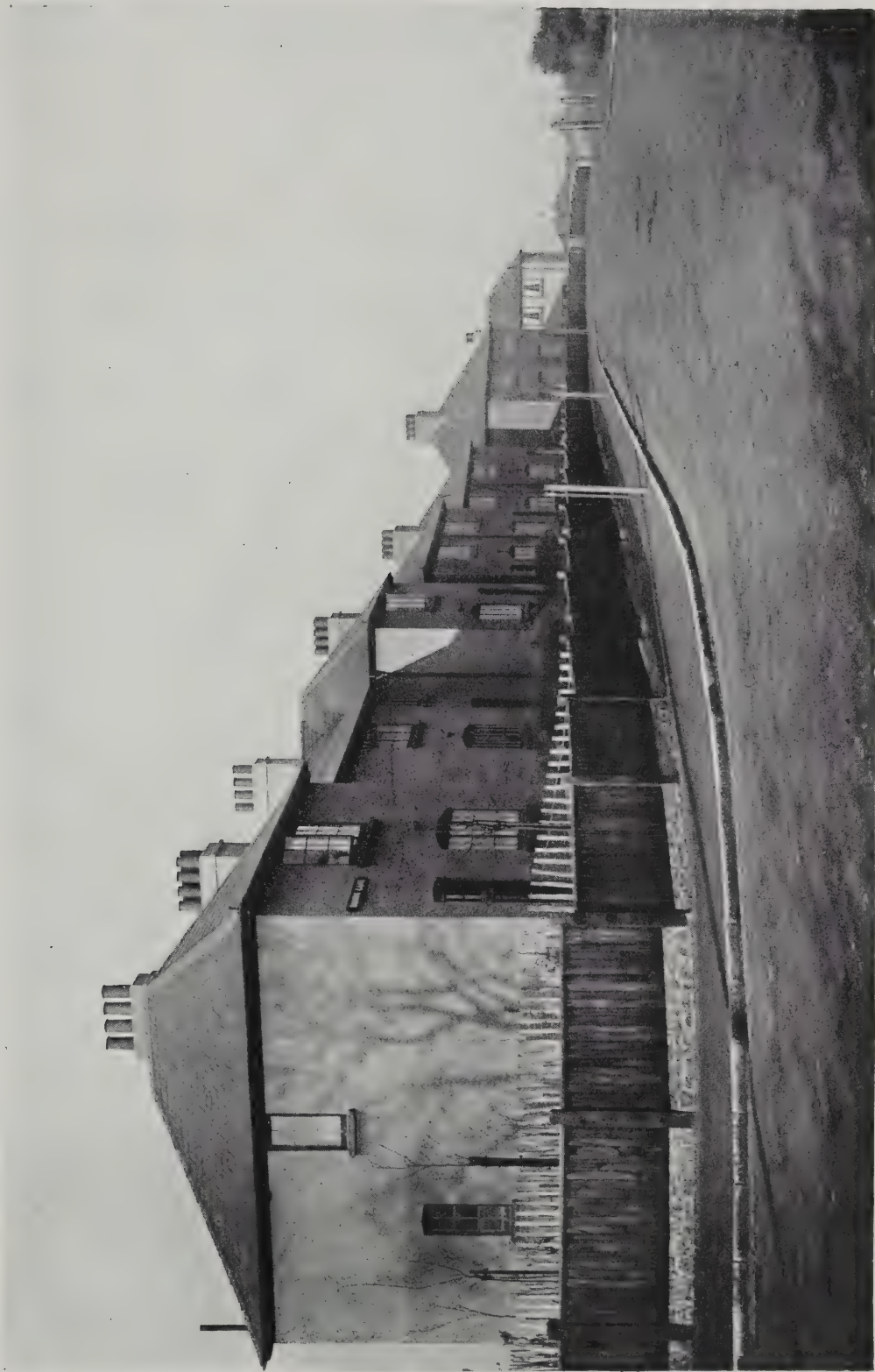
Architect's Department  
Local Government Board

CURRENT ARCHITECTURE (SERIES VI.). VI.—HOUSING SCHEME AT BREWERY FIELDS, DUDLEY.

BROOK KITCHIN, F.R.I.B.A., ARCHITECT TO THE LOCAL GOVERNMENT BOARD.





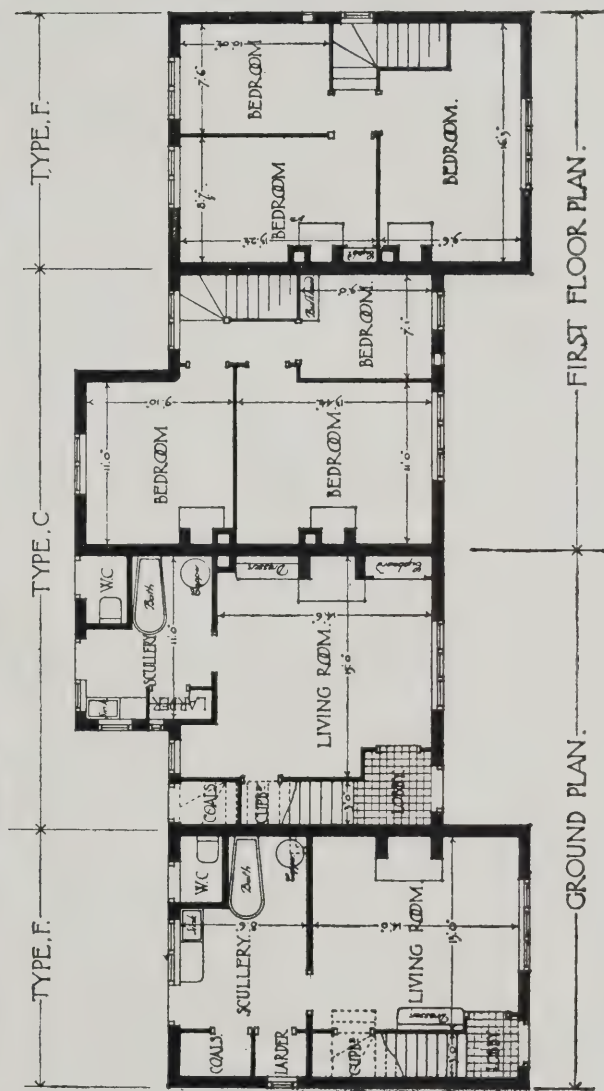
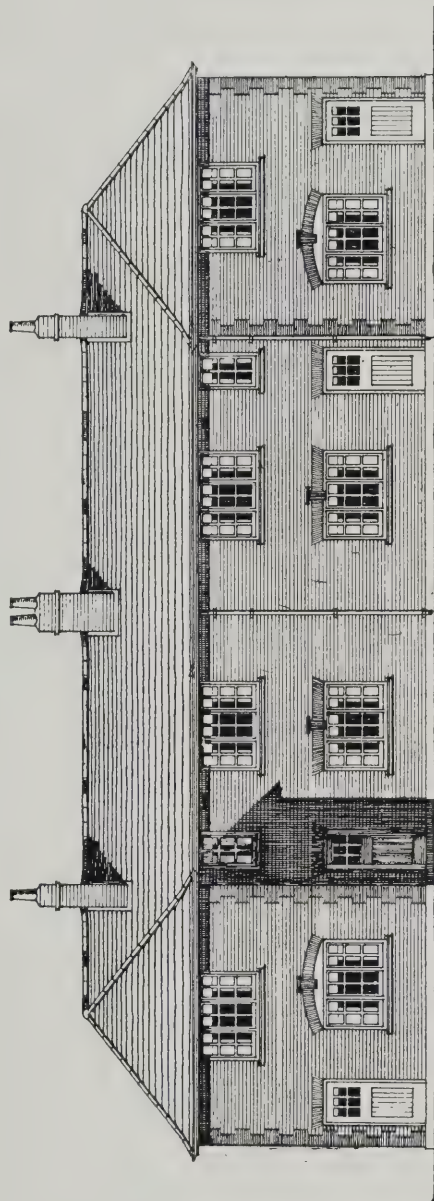


CURRENT ARCHITECTURE (SERIES VI.). VII.—HOUSING SCHEME AT BREWERY FIELDS, DUDLEY: GROUP TYPES F, C AND F IN FOREGROUND.  
BROOK KITCHIN, F.R.I.B.A., ARCHITECT TO THE LOCAL GOVERNMENT BOARD.





COUNTY BOROUGH OF DUDLEY.  
HOUSING SCHEME AT BREWERY FIELDS.



Architects Department,  
LOCAL GOVERNMENT BOARD,  
1916.

SCALE FOUR FEET TO AN INCH

CURRENT ARCHITECTURE (SERIES VI.). VIII.—HOUSING SCHEME AT BREWERY FIELDS, DUDLEY: PLANS AND ELEVATIONS OF GROUP TYPES F, C, AND F.

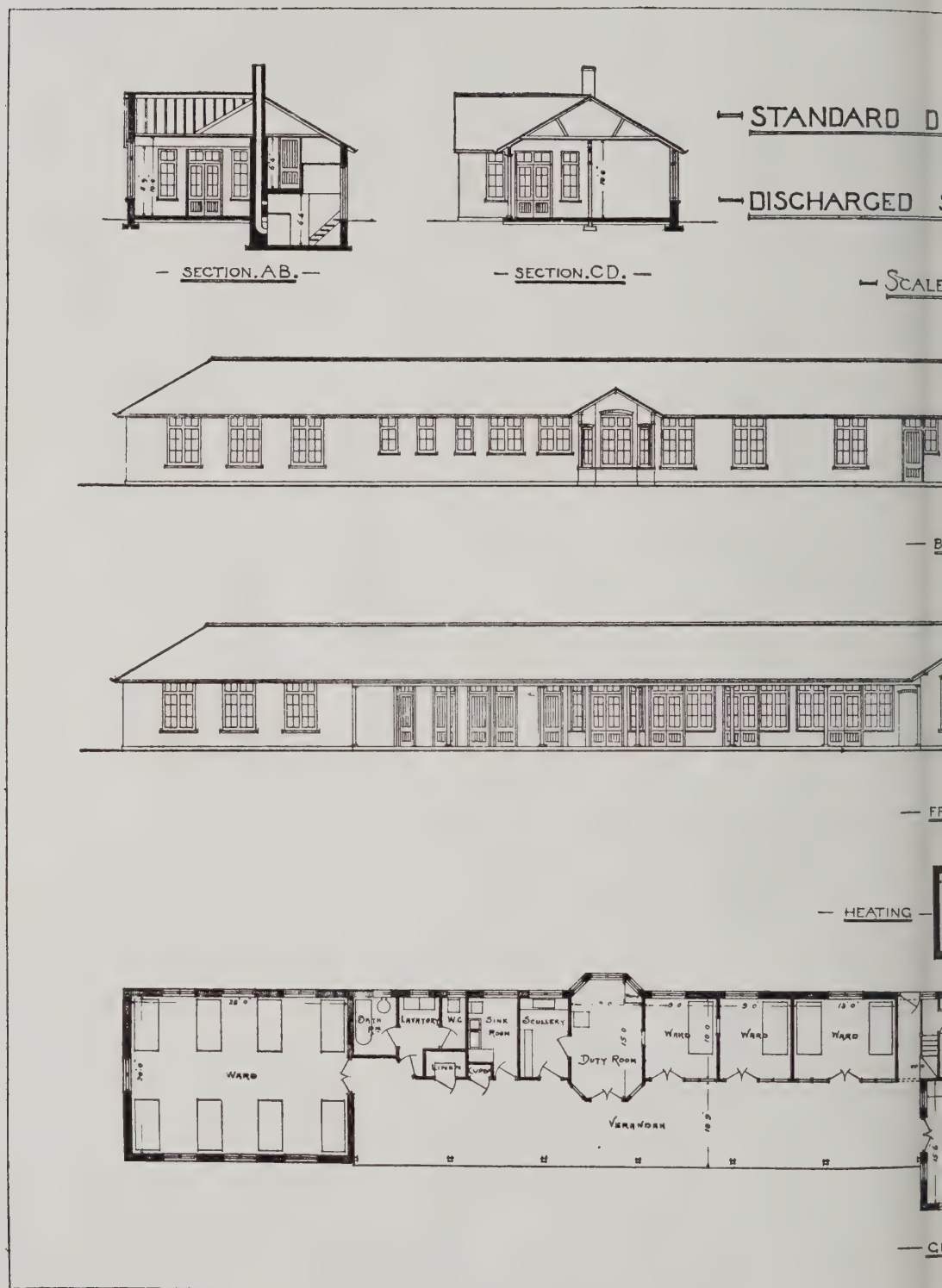
BROOK KITCHIN, F.R.I.B.A., ARCHITECT TO THE LOCAL GOVERNMENT BOARD.







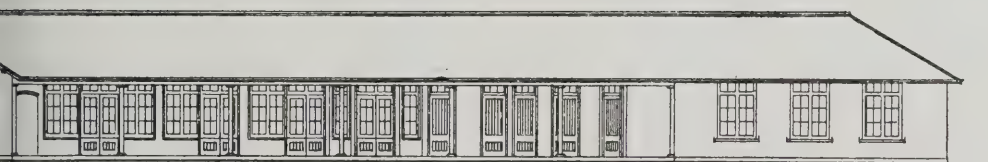




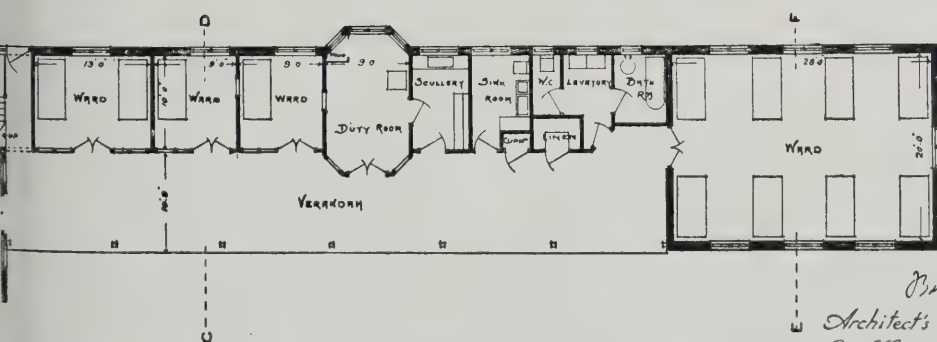
CURRENT ARCHITECTURE (SERIES VI.). IX.—STANDARD TYPE OF

MINISTRY OF PENSION

BROOK KITCHIN, F.R.I.B.A., ARCHT



— CHAMBER —



*W. H. H. H.*  
 Architect's Department.  
 Local Government Board.

A FOR DISCHARGED SOLDIERS AND SAILORS ADOPTED BY THE  
 RED CROSS SOCIETY.  
 E LOCAL GOVERNMENT BOARD.





and, but it would complicate the present Bill too to incorporate such a proposal in it. The resolution was carried unanimously. The President announced that the Council had appointed a Committee to consider the question of a memorial to those members who had fallen in the war, and he hoped soon to be able to make an announcement on the subject.

## THE PLATES.

### *Housing Scheme at Dudley.*

THIS very interesting housing scheme, carried out by the Local Government Board in 1916, is the development of the eastern portion of a piece of land purchased from the Earl of Dudley. The estate at present developed is about thirty acres in extent, and the number of houses is 300, a distribution of ten houses per acre. The new roads consist of an avenue 40 ft. wide from St. John's Road to Birmingham Road, and various intersecting streets 30 ft. wide. All new streets are laid out on town planning and garden city principle, viz.: wide pavements with grass strips planted with trees on either side, and footpaths of widths varying in accordance with the width of the streets. A portion of land has been reserved for allotment gardens, and other portions are laid out as open spaces. Following are particulars of the different types of houses that have been adopted. Each house has a front and back garden and a bath.

Type B comprises:

Living room ...	14 ft.	by 12 ft.
3 Bedrooms ...	17 ft. 3 in.	by 10 ft.
	10 ft. 8 in.	by 9 ft.
	8 ft.	by 7 ft. 6 in.

Type C:

Living room ...	14 ft.	by 12 ft. 9 in.
3 Bedrooms ...	16 ft.	by 10 ft. 6 in.
	11 ft. 8 in.	by 9 ft. 4 in.
	8 ft. 6 in.	by 6 ft. 6 in.

Type C:

Living room ...	15 ft.	by 14 ft. 6 in.
3 Bedrooms ...	13 ft.	by 11 ft.
	11 ft.	by 9 ft. 10 in.
	9 ft.	by 7 ft.

Type D:

Parlour .....	15 ft. 2 in.	by 10 ft.
Living room ...	12 ft.	by 11 ft. 9 in.
3 Bedrooms ...	13 ft. 2 in.	by 11 ft. 9 in.
	12 ft. 3 in.	by 9 ft.
	10 ft.	by 6 ft. 6 in.

Type E:

Living room ...	14 ft.	by 13 ft.
3 Bedrooms ...	16 ft. 3 in.	by 9 ft. 6 in.
	13 ft. 2 in.	by 8 ft. 7 in.
	10 ft.	by 7 ft. 6 in.

Some of these types are shown on the supplementary plates in this issue, and others will appear next week.

The total cost of the scheme, including fencing, but excluding land, sewers, and road making, was £85,045, the average cost per house working out at £283 9s. 8d.

Five contractors were employed, viz.: The Dudley Amalgamated Builders, 90 houses; Messrs. Rogers and Son, Cardiff, 86; Mr. Thomas Higgs, Northampton, 54; Messrs. Jenkins and Davies, Cardiff, 40; Mr. W. Roe, Wolverhampton, 30.

Mr. Brook Kitchen is to be congratulated upon a scheme which is sound from every point of view: it is economical, the houses provide adequate accommodation, and a pleasing if simple architectural character is maintained throughout. By an ingenious arrangement of the different types in various forms and combinations monotony is completely avoided. Indeed, the scheme in its general appearance has much of the charm of an old-time English village.

### *L.G.B. Design for Sanatoria.*

Reference to this design is made on p. 281, whereon plans alternative to those which appeared last week are reproduced.



HOUSING SCHEME AT BREWERY FIELDS, DUDLEY.

BROOK KITCHIN, F.R.I.B.A., ARCHITECT TO THE LOCAL GOVERNMENT BOARD.

(See also Supplementary Plate.)



## THE ROYAL ACADEMY WAR MEMORIALS COMMITTEE.

THE following announcement is made by the Royal Academy of Arts:

With the approach of peace the necessity of organisation in dealing with War Memorials in this country becomes imperative. The danger is that the desire to perpetuate the memory of those who have laid down their lives should waste itself in wrong channels through lack of competent guidance, and should in fact endanger our national buildings and spaces by ill-advised interference. It is essential that memorials within our Churches and Cathedrals, in the close, the public park, or the village green, should not clash with the spirit of the past; that, however simple, they should express the emotion of the present and hope of the future without losing touch with the past, and that instead of being a rock of offence to future generations, they should be objects of veneration to those who follow us.

Efforts have already been made in various quarters to deal with this problem. Among other bodies, the Civic Arts Association concerns itself with the subject of War Memorials, and has been active since an early stage of the war both in propaganda and in advice to applicants. Appeals for advice have also been made to the Royal Academy, and that body, being anxious to assist in this important work, appointed a Committee in 1917, who drew up and issued in March, 1918, a short memorandum of advice to municipal and other bodies who might be contemplating War Memorials.

In July, 1918, a representative meeting was held at the Royal Academy, at which, in addition to members of the Royal Academy, the following gentlemen were present: Lord Plymouth, Lord Crawford, Lord Ferrers, Lord Desborough, Sir Alfred Mond, Sir Lionel Earle, Lieut.-Col. Sir A. Leatham (representing the War Office), Major-General Fabian Ware, Lieut.-Col. Sir F. Kenyon (representing the Imperial War Graves Commission), the Dean of York, the Dean of Wells, Mr. R. C. Norman (Chairman of the L.C.C.), Mr. Athelstan Riley, Mr. H. T. Hare, P.R.I.B.A., and others; and out of a General Committee then formed the following were subsequently nominated to serve on an Executive Committee:—

SIR EDWARD J. POYNTER, Bt., P.R.A., Chairman.	Prof. W. R. Lethaby.
The Earl of Plymouth.	The Very Rev. W. F. Norris, Dean of York.
The Earl of Crawford	Sir William B. Richmond, R.A.
and Balcarres.	J. S. Sargent, Esq., R.A.
Earl Ferrers.	Charles Sims, Esq., R.A.
Charles Aitken, Esq.	Sir Cecil H. Smith.
Reginald Blomfield, Esq., R.A.	Alan A. Campbell Swinton, Esq., F.R.S.
Sir Thomas Brock, R.A.	Sir Hamo Thornycroft, R.A.
George Clausen, Esq., R.A.	Sir Aston Webb, R.A.
Sir Theodore Cook.	Christopher Whall, Esq.
Frank Dicksee, Esq., R.A.	Henry Wilson, Esq.
Sir George Frampton, R.A.	Captain F. Derwent Wood, A.R.A.
H. T. Hare, Esq., P.R.I.B.A.	
C. J. Holmes, Esq.	

### Naval and Military Advisers.

Capt. H. W. Richmond, Lieut.-Col. Sir Arthur R.N. Leatham.

It is felt that in all cases the designs of memorials should be entrusted to competent artists, and this Committee has been formed, not to undertake designs, but to give assistance and advice at an early stage to the promoters of memorials; to act as a body of reference for those who desire guidance as to the

general scope and character of memorials; to act on their suitability for specific sites or position buildings; and generally to further an organ effort throughout the country to make the memo of this war worthy of their great occasion. It is that all men of goodwill should contribute of ability as they possess to bring it about that our memorials should express the ideals fought for the free nations of the world, and that while speak to future generations of the courage patriotism of those who have died, they do sacrifice any of that older beauty which is England's legacy from an immemorial past.

It is understood that Diocesan Committees being appointed, and in some cases are already work, which will among other duties assist the cl in securing the highest standard of memorial churches and cathedrals. An organisation of this character has been set on foot in Scotland, and hoped to co-operate with these and other Committees in all the great provincial centres, and to have sympathy and help of public authorities and of clergy and laity throughout the country toward attainment of the object in view.

## NEW OPPORTUNITIES FOR ARCHAEOLOGICAL RESEARCH.

LAST week's meeting of the British School of Archaeology in Athens marks the end of years' almost total intermission of excavations on ancient sites. The school, like all associations of archaeologists, sees great opportunities before it, says a writer in the "Queen." The freeing of Crete from the Turkish yoke gave the school the opportunity in the early years of this century to inaugurate co-operation in excavating the great palaces of Knossos, long known to tradition as the Cretan labyrinth. This work revolutionised our ideas of the basis of Greek culture, and laid bare the evidences of the vast civilisation of the Minoan age. The palaces, with their almost modern sanitation and water supply, their storerooms full of Ali Baba jars for oil and their wall pictures of tight-waisted Cretan dandies and beauties, their art gems commemorating the engineer Daedalus, were brought home to us by the work of Arthur Evans's books and by the exhibits of the School in Athens and in London. Now that Palestine and Syria are free from the Turk we may hope for important discoveries under the Temple area. The victories in Asia will make research and excavations possible on the sites of the Chaldean and Egyptian civilisations.

## CORRESPONDENCE.

*The Empire War Memorial Scheme.*  
To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—An unusual feature of the most recent proposal for a war memorial on a large scale was that there was associated with it an advisory committee composed of leading representatives of almost every profession and calling except that of architecture.

By whom and for what purpose this advisory committee was constituted did not appear, and it may be very advisable that there should be an advisory committee to deal with war memorials involving questions of architectural composition and design, it seems to me desirable that any such committee should be constituted by the professional societies connected with architecture, and should consist largely, if not entirely, of architects.

C. MCARTHUR BUTLER,  
Secretary, the Society of Architects, 11, Bedford Square, London.



## MANCHESTER SOCIETY OF ARCHITECTS: PRESIDENTIAL ADDRESS.\*

BY ISAAC TAYLOR, F.R.I.B.A.

THE Manchester Society of Architects, in this its fifty-third year, occupies the premier position amongst the provincial architectural societies. We have great additions and wide influence, and during the forthcoming term of office I hope I may relax no effort and miss no opportunity of upholding all that is best in our old traditions.

*The Supply of Materials.*

The world's output of building materials has been drawn upon for four years as never before; all stocks are exhausted. Some of the huge buildings that are covering the country may be used or adapted for more peaceful needs, but, generally, these huge factories, camps, and even villages and towns, which have grown up suddenly around them, may be considered as helping in the war wastage, in consuming with ever-increasing speed the world's output of mankind's resources.

So much for our stock of materials, what about the workmanship? With the shortage of labour boys are taking the place of men, and inefficient are taking the place of trained labour. We have not only got to mess about with concrete and iron rods and search for any material that can be made to do, but we have to adapt our standards also to the fear of provoking an incompetent worker to go elsewhere.

*Lowering of Standards.*

This lowering of standards is going to be a very real difficulty, and it will take years to eradicate the four years' tradition of "hustle" and "get it done," of crowding competent men on to a building and seeing them there doing little but drawing their wages, that has been the rule in many instances. The general public, too, having been accustomed to see the best buildings produced from foundations to roof in as few months almost as it would have taken years on the old methods, will be impatient of the slow-going carefulness at real building demands. The "fatal facility" of temporary building has also been so widely demonstrated at we shall but hardly escape from its re, particularly when we are confronted with the enormously increased costs of permanent work.

*Supersession of the Architect.*

During this period, too, the vast war buildings industry has created vast organisation to direct them. The architect has been superseded, and to some extent absorbed, by the vast Government Departments. The machinery thus set up will be slow in demobilising, if ever it does mobilise. Years ago we looked with their jealous eyes on the growing activities of the Office of Works, which we thought was absorbing more of the architect's work than was good for the community. I suppose that the activities of the Office of Works are now no less than heretofore, but now it is only one of many Government organisations for design and superintendence.

Besides the War Office, with the Royal Engineers as its building directors, we have the Air Board and the Ministry of Munitions, and sub-divisions of these departments all at work.

The building trade is also being revolutionised. Some of the larger firms have grown enormously, employing thousands instead of hundreds. Construction companies have come into existence who offer to carry out works of any magnitude, and who sometimes usurp the architect's place and provide designs for complete towns, which they undertake to erect, sometimes with specious promises of speed and efficiency that they are unable to fulfil.

*Looking Forward.*

It would seem that, as architects, we have a stirring outlook before us: Thousands upon thousands of men returning to civil life, looking for improved houses to live in, a generally raised standard all round for hundreds of thousands of artisans' houses; all the buildings projected before the war started, and the many others that would normally have been wanted during the past four years; a countless number of men, and women too, with means to build houses for themselves; war, and, let us hope, peace memorials, which will be wanted, national municipal and parochial homes and hospitals for the permanently disabled, vast extensions of the schools, new factories and extension and alteration to existing factories to cope with the new industries that will be required to make good the war wastage and above all the demands of the naval, military, aircraft, and shipbuilding authorities in works of vital national importance.

*Thinking Internationally.*

Apart from all these home needs, we are being urged, and I hope we are learning, to think more internationally, and I trust that, however urgent our own case may be, we shall not fail to look abroad and render all the help that is demanded from us in building up again those hundreds of square miles of devastated country that have been bearing the brunt of this titanic struggle.

It is clear that the shortage of materials alone will check this unlimited vista of reconstruction. Many years of harvesting of materials must elapse before one-tenth part of this programme can find stable expression. Whether we are still State-controlled or not, there will have to be some ear-marking of buildings in order of the national need, and I trust that we shall bear our disappointments stoically when our own pet schemes are disallowed.

*The Specialist and the Architect.*

I should like to say a word or two about the specialist or expert. The growing elaboration of buildings calls for a vast store of very special knowledge. I remember an architect of one very large building, not in Manchester, whose work consisted in making small scale sketch plans, copies of which were sent round to different firms, who supplied all the details, one firm the reinforced-concrete shell, another the terra-cotta casings with all its details, another the marble walls and mosaic pavements, the heating and lighting, the panelling and doors, and all the various fittings in the same way, so that the so-called architect could comfortably leave his clerk to assimilate all the details supplied him into his contract

drawings and devote his energies to annexing another fat job. He was able in this way to carry out a large practice with a very small staff, leaving his trusting client to pay not only for all the draughtsmen employed by the various contractors and included in their contract price, but the architect's 5 per cent. on their wages as well.

*Architect and Contractor.*

There are various degrees, of course, in which this may be done. A certain amount of designing or setting out will probably always have to be done by the contractor, but I feel sure that the more the individual architect can equip himself to deal directly with the different works required the better it will be. It may be objected that no one man can hope to make himself master of all the arts and crafts employed on a single building, and here there would seem to be an opportunity for useful collaboration.

*Architects' Inadequate Scale of Charges.*

Another matter that is engaging the Practice Committee of the Institute is the revision of the scale of architects' charges. There is a tendency on the part of some architects to call for a document that, if accepted by the client, will clear the architect of all responsibility. They say that the architect is employed to design the building, and the builder contracts to carry it out, so that any bad workmanship is clearly the builder's responsibility. They quote hard cases where the architect has been mulcted in damages, but it would seem to be a dangerous principle to put forth that the architect shall be the sole judge of what are his duties, and that proved negligence on his part should entail no responsibility or penalty. We all know that hard cases will occur, and the Courts will make absurd decisions against an architect, but the law is the best machinery we have been able to invent so far, and we had better trust to its findings. It cannot always be wrong.

*A Danger to Avoid.*

Another danger in any scale of charges is that in the attempt to provide for all contingencies to prevent an architect being compelled to do work for no pay, we may fall into the other extreme and invent endless excuses for extra payment far beyond their value.

It is most damaging to the profession when an architect makes out a bill like a lawyer's document, reciting item after item. It is fairly easy on a quite simple and straightforward job to pick out a sufficient number of incidents and to price them out high enough to increase your remuneration from the general rate of, say, 5 per cent. that your client expects to pay to a very much higher percentage and still keep to the letter of the schedule, and it would be better that there should be cases of hardships sometimes than that the schedule should be brought into disrepute.

On the other hand, there is a very general feeling that the present scale of charges is insufficient, and that a higher rate should be made general. If this view prevails now is the time to do it. Prices are rising all round, and even architects might be expected to want to share in the rise.

\*Extracts from the Presidential Address to the Manchester Society of Architects.



## STANDARDISATION.

The much-debated question of standardisation in cottage design and construction is fully discussed in the recently issued Tudor Walters's Report on Housing. The Committee observe that there has been some difference of opinion among witnesses as to the degree of standardisation which is desirable, and as to the extent of the economy which may be secured by this means. This difference, however, is partly due to the different aspects of the subject which have been in the minds of the witnesses. By standardisation some have understood the manufacture of complete cottages of two or three standard patterns and the erection of them wherever houses are required; these have in mind the standardisation of plans, designs, and all parts on the lines adopted for the manufacture of a motor car; others are thinking merely of the standardisation of certain parts, such as doors, windows, fireplaces, etc. The subject cannot, however, be dealt with satisfactorily in this general way, because the desirable limits of standardisation and the extent of economy that can be obtained thereby will vary with each individual part of the cottage.

With regard to standardisation of design, there has in the past been a tendency for a very unintelligent standardisation to be adopted by individual speculative builders, who have repeated some single type of house row upon row, and street upon street, without regard to aspect, nature of site, relative position, or any other local conditions. We are convinced (say the Committee) that such standardisation cannot be economical, because, as has already been pointed out, it must involve neglect of many opportunities for considerable improvements in the arrangement of the house, and neglect of proper consideration of aspect, nature of site, and the position of each individual house. On the other hand, it will be found both convenient and economical to adopt a series of typical plans adapted to the main circumstances and aspects for which houses will be required; such typical plans can be thought out and arranged to meet the general needs of the householder to an extent which is hardly practicable in the case of each new design. They will, moreover, form a standard for comparison, in reference to which special new designs can be judged, but the limitation of their use as standards should be recognised, and while such plans may be accepted as a general basis, care should be taken to prevent them from becoming too stereotyped.

Owing to the probable shortage of timber, it is likely that some substitutes will have to be used for both floors and roofs, and in the case of nearly all such substitutes considerable economy would be secured if standard widths for the main rooms of the house were adopted, so that ferro-concrete or other beams, or centering for *in situ* concrete floors could be made in standard lengths or sizes. Some standard spans for roofs would also be an advantage, and would enable much cutting and preparation to be done before the roof timbers are sent on to the building. In fixing such standards, the usual trade lengths of the timbers required should be taken into consideration. Where timber floors are used, such definite standardisation of sizes may, if carried too far, be the reverse of economical in that it might create an abnormal demand for particular lengths and particular scantlings of timber. The adoption of certain scantlings of timber for military huts at one time created almost a famine in the par-

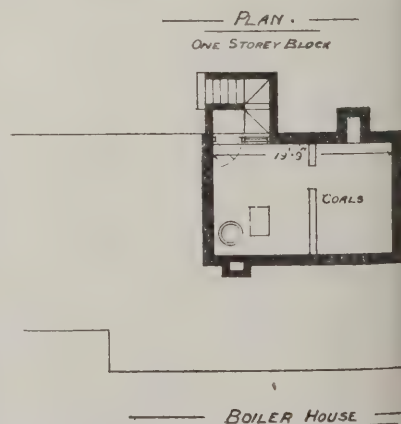
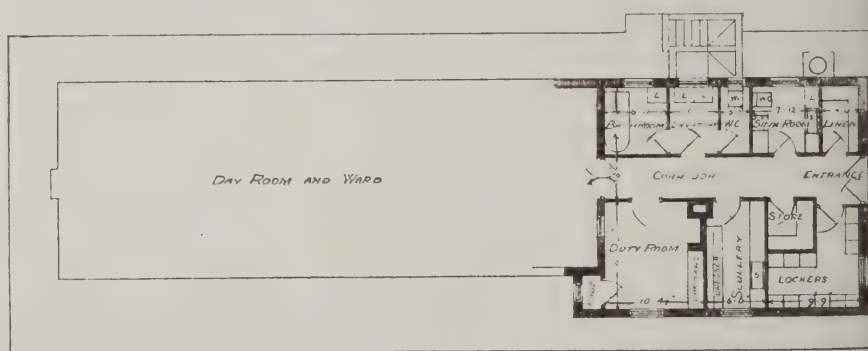
ticular sections and lengths required, and it became necessary to vary the sizes in order to overcome the difficulty. Where special articles have to be manufactured the adoption of standard lengths or sizes undoubtedly tends to economy, but where they have to be cut from growing timber or obtained from other natural sources, as in the case of slates, any too extensive standardisation is not likely to be economical.

Considerable evidence was given upon the question of the standardisation of bricks, opinion being divided as to its practicability. Certain difficulties would no doubt present themselves immediately after the war, since, if an adequate supply of building materials is to be secured, advantage will have to be taken of all the existing brick-making machines and plant as they stand. There is, moreover, considerable objection to standardising the size of bricks on the part of some architects, makers, and others. To be effective, it would have to include glazed bricks, blue bricks, air gratings, etc., and details of construction would be affected in all branches of the building and engineering trades. Hence, while we think that the subject is worthy of further consideration by all parties concerned, we do not feel that it is one of sufficient importance to house-building to justify us in making any recommendation on the matter.

Certain standard sizes and proportions for doors and windows could be fixed with advantage. Hitherto it has been a common practice with many makers of standardised joinery to vary the height of doors with the width. This is necessary if the same proportion of height to width in each door must be maintained, but for cottage building, where doors of different widths must often be used in order to save space, the effect of having doors of different heights in one room or in one entrance lobby is more unsatisfactory than the difference in proportion; the building is complicated also by the lintels having to

tend towards a standard height of about 8 ft., and the height of the glass line from the floor and from the ceiling cannot vary very much, so that a few standard heights would suffice for all requirements. There is no doubt that such standardisation would render practicable the manufacture of concrete window-frames, iron or steel sashes, in addition to wooden sashes and frames, on a scale that would lead to substantial reduction in the cost; window frames, cheaper in first cost, more durable and involving less periodical outlay for painting would then be available.

With regard also to baths, sinks, grates, ironmongery, and other fittings, intelligent standardisation would in all probability lead to economy, not always by the reduction in the price of the cheapest article but by the production of a much better article in proportion to the cost. There has been a tendency in the production of cottage fittings to manufacture very large numbers of articles of excessive cheapness and inferior quality; while articles of better quality, on the other hand, have been produced on a much smaller scale and have been sold at a proportionately much higher price, so that the only way to secure a cheap article has been to accept an inferior quality, and the only way to get a good article has been to pay a heavy price owing to the limited extent of production. We are convinced that if good, sound articles, well made and of adequate strength were standardised and produced in sufficiently large quantities much better value could be secured. We recommend that such standard patterns should be carefully worked out and samples prepared, in consultation with both expert manufacturers and those who have studied the use of the articles. In this way good standard articles adapted to the purpose for which they are required, suitable in design and involving a minimum of cost in maintenance, should be provided at the lowest cost in sufficient number of patterns to meet all reasonable desire for variety.



ALTERNATIVE PLANS FOR L.G.B.  
STANDARD SANATORIA.  
(See opposite page.)

be left at different levels; a standard height for all doors would greatly simplify building operations and would lead undoubtedly to economy. Standardised sizes for doors and windows would enable standardised ferro-concrete or other lintels to be made at suitable centres and distributed to the building sites, and in the case of the windows such a course would lead to the standardisation of sashes or casements and of the panes of glass to be fixed in them.

Owing to the large number of houses that will be required, probably the limit of economy in standardisation would be reached even if a number of different standard types were adopted so that a reasonable variety would be available. The conditions which limit the heights and widths of cottage windows are very much the same in all cases; cottage rooms

SANATORIA FOR DISCHARGED SOLDIERS AND SAILORS.

In last week's issue we reproduced the Local Government Board's standard plan for sanatoria for discharged soldiers and sailors (Design A), together with the Board's circular on the treatment of tuberculosis, recently issued to the Councils of Counties and County Boroughs. In this circular it was stated that additional accommodation for staff would not usually be required, but that, if necessary, it could

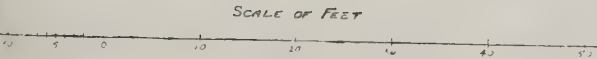
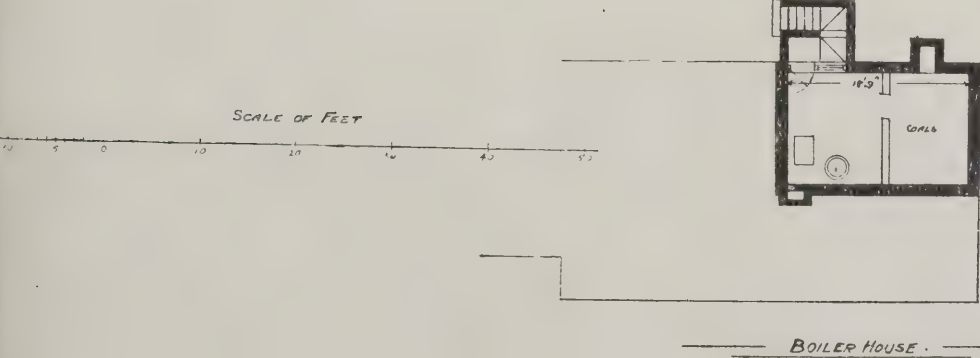
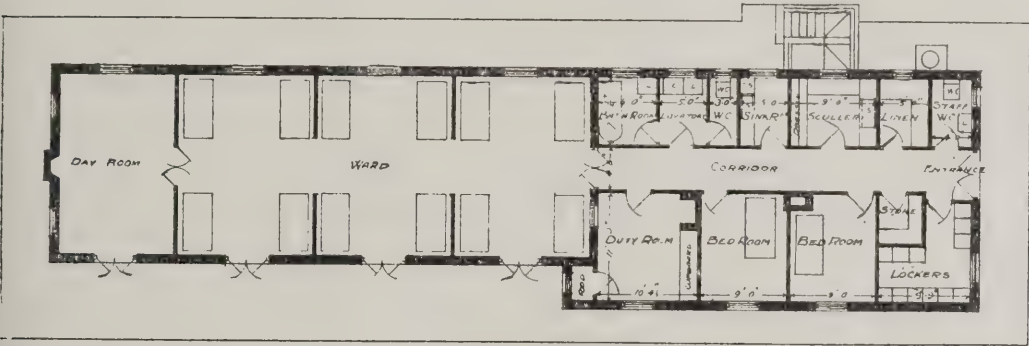
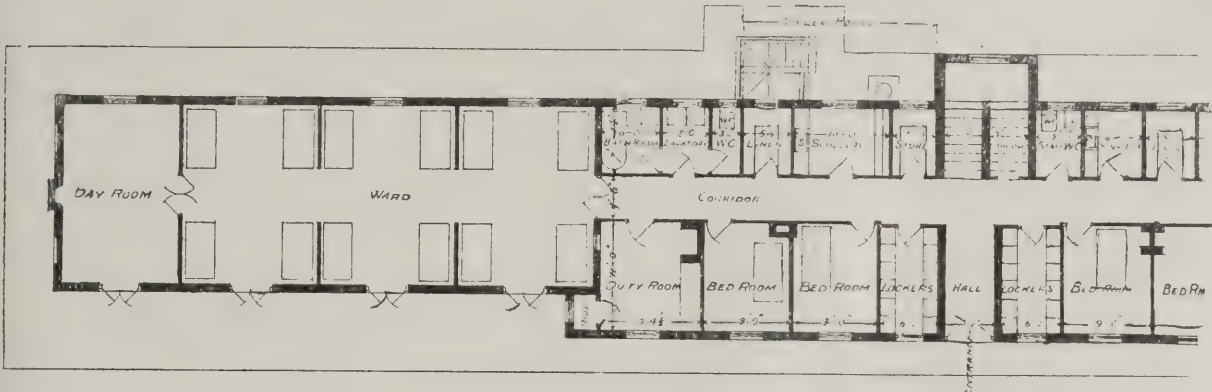
be provided economically by additions to existing staff quarters. To meet cases, however, in which additional staff accommodation is essential and cannot be economically provided elsewhere, the alternative plans reproduced on this page and opposite (Design B) have been prepared. They show bedrooms for the staff located in the patients' pavilion.

Design C, reproduced on the double-page plate in this issue, shows a type of plan that has been adopted by the Ministry of Pensions and the British Red Cross Society for six sanatoria now being com-

pleted at Birmingham, Derby, St. Helens, Bristol, Exeter, and Southampton.

No standard specification for these sanatoria has been prepared, as the choice of materials will to some extent depend on local conditions; but in view of the shortage of timber, it may be necessary, in the opinion of the L.G.B., to adopt in most cases some form of brickwork. Steel is recommended for use as far as possible in substitution for timber in roofs and walls, and the Board suggest that it might also be used as a framework if concrete slabs or blocks can be obtained.

B.



*W. H. H. H. H.*  
Architect's Department  
Local Government Board.

ALTERNATIVE PLANS SHOWING ACCOMMODATION FOR THE STAFF IN L.G.B. STANDARD SANATORIA.

BROOK KITCHIN, F.R.I.B.A., ARCHITECT TO THE LOCAL GOVERNMENT BOARD.



## LEGAL.

### Disputed Builders' Claim.

*Stevens and Co. v. A. S. Marvel.*

November 29. Official Referee's Court. Before Mr. Pollock.

In this case the plaintiffs, Messrs. Stevens and Co., builders and decorators, of Marylebone Lane, claimed from Mr. A. S. Marvel £191 19s. 2d. balance of account for work done and materials supplied in connection with the fitting up, repairing and decorating two houses in Marylebone Lane, to be used as shops by the defendant.

The statement of Mr. G. H. Head (counsel for the plaintiff) was to the effect that in the first instance the plaintiffs did work under an estimate for £98, and then, as was often the case, a large number of extras were ordered amounting to £468 19s. 2d., bringing the total indebtedness up to £566 19s. 2d. Of that plaintiffs had received £375, the last payment of £225 having been paid after the commencement of the action. The defence set up was, in the first instance, that the charges were unreasonable, and then that certain things charged for had not been done, and that others charged for as extras were included in the estimate. The defendants counterclaimed for £24 and paid £35 into Court. The plaintiffs admitted £15 out of the £24. The original estimate was given in August, 1917.

Mr. Arthur Spokes (for the defendant) said that no written estimate had been given until after the action was commenced. If there was an estimate at all it was merely verbal. When the written estimate was received it did not agree with what defendant understood from the verbal estimate.

Mr. Head said that as soon as the work started the defendant was constantly ordering extras of all kinds. Early in January this year the defendant saw plaintiffs, and asked what the work was going to cost. Mr. Stevens pointed out it was impossible to tell exactly without going carefully through the account; but, roughly, he thought it would be about £500. Defendant thereupon said it was simply robbery, and left the place in considerable anger.

The Referee, after hearing evidence on both sides, found for the plaintiff for £105, including the amount paid into Court, with costs.

### Architect's Claim for Fees: Rules of the Institute.

*Gibson v. Davison Aviation Co.*

November 30. King's Bench Division. Before Mr. Justice Roche.

In this action the plaintiff, Mr. James Sievewright Gibson, architect and surveyor of 50, Old Bond Street, claimed from the defendant company fees amounting to £1,160 15s.

Mr. Compston, K.C., with Mr. Morle, appeared for the plaintiff, and Mr. Disturnal, K.C., with Mr. De Herbert, for the defendants.

Mr. Compston, stating the case for the plaintiff, said that he was claiming for professional remuneration in connection with an extension scheme by the defendant company of their works at Hammersmith Road, which scheme was, however, abandoned because the Government would not sanction the outlay as it was beyond the limit of £500. The defendants by their pleading denied the retainer, but made payment into Court with a denial of liability. His submission for the plaintiff was that the facts would show clearly that the plaintiff was employed. The payment

into Court was £345 5s., but the plaintiff's claim was based upon the recognised professional charges in accordance with the rules of the Institute of British Architects, of which plaintiff was a member. He was consulted first in regard to a site adjoining the defendants' works in the Hammersmith Road, on which it was proposed to build the extension. He told them he thought the value of the site was £3,000, and he was then asked to prepare a complete scheme for the proposed new works. He carried out a complete survey of the whole site, and in respect of that he had only charged the nominal figure of twelve guineas, and as to that claim the defendants had paid five guineas into Court with a denial of liability. Subsequently plaintiff submitted to the defendants plans and specifications for the proposed new buildings. A bill of quantities was got out for submission to the Air Board, and for that the defendants had paid £100, which they would not have done (said counsel) had they not employed the plaintiff to get the estimate. Messrs. Selby and Saunders estimated the cost of the new premises at £38,930, and in that figure was included £1,300 for surveyor's fees for the submission to the Air Board.

Mr. James Sievewright Gibson, the plaintiff, gave evidence in support of counsel's statement. He said that in the early part of January of last year he was asked to go to the defendant's premises at Hammersmith, and when he went he was consulted as to the value of the site adjoining, and subsequently he was asked to get out plans and specifications for the proposed building. Mr. Gordon, his partner, spent two days on the survey of the land and buildings thereon, after which he (witness) proceeded as rapidly as possible with the drawings necessary for carrying out defendants' scheme.

A great deal of evidence was given on both sides as to the prevailing custom upon which the architects made their charges generally, and particularly in relation to the plaintiff's claim.

Mr. Disturnal, K.C. (summing up the defendants' case), said that they did not dispute that he was entitled to be paid a fair remuneration for what he had done, and the whole question resolved itself into what he had really done in accordance with instructions. He was undoubtedly retained to do something, but not all that he said he was engaged to do, especially in regard to the second scheme, as to which he knew that the defendants were not in a financial position to carry it out without Government aid.

Mr. Morle, replying for the plaintiff, submitted that the proper method of remuneration was a percentage basis. In such cases as this it would be impossible to adopt a day work basis, and that being so, the question was what would be a reasonable percentage under the circumstances. The steps taken by the plaintiff were, he argued, only taken upon express instruction from the defendants, or given on their behalf.

His Lordship (in giving judgment) said that there had been some conflict of evidence as to what took place when the arrangements were made, but he was inclined to accept entirely the evidence of Mr. Gibson. The value of, for want of a better term, what he would call an architect's goodwill, had been undervalued by the defendants' case. As to the first scheme, he thought a percentage basis could not be adopted in making the charges; it would have to be upon the amount of work done, and his opinion was that the proper charge to be made by the

plaintiff would be 100 guineas, and the amount he would award. The second scheme was a larger one; it was to fill the vacant ground with new buildings. The defendants said that their instructions were simply to give an estimate of the cost; but that was wrong, as detailed plans and estimates were got out, and he found that the plaintiff did the work at the request of the defendant company, and brought it up to a point when it could be submitted to the Air Board as a detailed scheme that was not quite so much as the plaintiff's would entitle him to charge 2½ per cent. on the estimated value. It was, however, substantial work for what was submitted, 250 guineas would be sufficient payment. He thought the work did fall substantially short of that which would entitle plaintiff to claim 2½ per cent., and that 1½ per cent. would be nearer the mark; but he did not adopt that as an exact figure. Looking at the value of the services, which extended over a month or six weeks, he thought plaintiff ought to be paid £500 for the second scheme. This, with the 100 guineas, would make £605, for which amount he gave judgment.

Judgment was accordingly entered for plaintiff for £605, with costs.

### STATE AID FOR HOUSE BUILDING.

The Government recognised some time ago that there will be practically no working-class houses built in the next year two without State assistance, and in March they announced the terms they were prepared to offer to the local authorities to undertake house-building. Although it is stated that in the exceptional conditions likely to exist they must look to the local authorities for the bulk of the houses, the encouragement of private enterprise was not overlooked, and the Minister of Reconstruction, Dr. Addison, appointed a Committee, under the Chairmanship of the Right Hon. Henry Hobhouse, to consider how far this could be done. The Committee—the Housing (Financial Assistance) Committee—has now presented an Interim Report dealing with the Public Utility Societies. (Readers will recall Ewart G. Culpin's article on the same subject in our issue for November 20.)

A Public Utility Society is one registered under the Industrial and Provident Societies Acts (those Acts under which an ordinary co-operative society is registered), which limits its interest in a dividend to 5 per cent. It can be formed by any eight people, and therefore is a convenient grouping for small communities who might wish to co-operate in an enlightened housing scheme. The Committee recommend that loans of 80 per cent. of the value of any housing scheme carried out by such a society should be made by the State at the lowest rate at which it can lend without loss. Repayment may be spread over fifty years, and advances made during building. They are unanimously agreed, however, that loans alone will not produce any substantial number of houses, and that subsidies will be essential, because the cost of building will be so high for a time as to make it impossible to obtain a commercial return upon money invested in immediate house building.

The majority of the Committee expressed the strong opinion that if the State wants houses, the State should bear the whole of the loss incurred by a society building at once; otherwise there will



temptation to wait till building is cheaper, and houses, urgently needed, will not be forthcoming. The fact that the State is saving only 75 per cent. of the loss on local authority schemes is not inconsistent, even urge, with their suggestion that the role of the abnormal loss of societies should be borne by public funds, because, they point out, the remainder of the loss (25 per cent.) on local authority schemes falls on the rates; therefore the community, either as taxpayer or ratepayer, is really bearing the loss. They state, nevertheless, that they "feel precluded" from recommending that the State should bear more of the loss in the case of Public Utility Societies than in that of local authorities, and they therefore commend that the State should bear 75 per cent. of the loss and that the local authorities should be empowered to subscribe to the remainder. Even this, they consider, will produce houses only in special cases—where employers or others have an urgent need for houses and are prepared to lose money and where a local authority prefers to assist a society rather than to build for itself. The minority dissent from the opinion that the whole loss should be borne by the State, and recommend that the same terms as those offered to local authorities should be applied as nearly as possible to Public Utility Societies.

Both the majority and minority recommend that such assistance should be given only under stringent safeguards; security of tenure should be granted to the tenants, who should also have a share in management; schemes and rent should be approved by the Central Housing Authority, and professional and management expenses should be limited, and the accounts publicly audited. They also commend that, in view of changed conditions, the maximum rate of dividend payable by such societies should be increased from 5 per cent. to 6 per cent.

[For comment see p. 273.]

## REINFORCED CONCRETE FOR COTTAGES.

The idea that concrete is not suitable for the construction of dwelling-houses still persists in certain quarters. It may, therefore, be advantageous to consider some of the objections often raised against its employment, chief of which are: Cost, by-laws, dampness, appearance.

### Cost.

Centering for a small dwelling-house is an entirely different proposition from that for a city building or a factory: little of it is required, and the forms may be used again and again. Sand and gravel for the aggregate are easily obtainable in most districts, and the quantity of cement and steel needed is comparatively small. Hence construction costs may be expected to be reasonably low.

### By-laws and Building Regulations.

The cast-iron by-laws in vogue in many districts, though useful at the time when they were introduced, are now out of date, inasmuch as no licence is allowed for the use of new materials involving newer types of construction. Portland cement and other scientific products have given the building trade the means of producing stronger structures at relatively lower costs than would be obtained by the older methods of building, but whilst stringent building regulations are administered in a traditional legal manner little possibility exists of using new discoveries to cheapen construction. It is therefore to be desired that the building trade as a whole will press for a Bill revising the present obsolete model by-laws or introducing new regulations that will give a discretionary power to the officials administering them.

### Dampness.

This objection contains a substratum of truth, and it cannot be denied that a plain

concrete roof will favour condensation on its soffit, but if means are taken to overcome this, and damp-courses are used in walls as in the normal brick-built cottage, there is no reason why the concrete structure should not be dryer and more hygienic than the brick-built one, and infinitely more so than the timber-built structures that have been suggested by many writers as a ready means of solving the housing question. In any case, dampness may be cured by the use of waterproofing compounds, of which several excellent kinds are readily obtainable.

### Appearance.

The assumption that a concrete cottage must be built on the lines of a block-house, pierced here and there with ill-proportioned openings for doors and windows, is widespread, and if this was the case the monotony of a village of concrete buildings would only be equalled by that of the long streets of brick houses with dull slate roofs that form the suburbs of many of our manufacturing towns.

Even apart, however, from the fact that in many cases concrete buildings will be roofed with ordinary or concrete tiles, which will give a varying note of colour to the building, it should be remembered that the cardinal rule of all architectural design is that the building should express the material in which it is erected.

It is now generally conceded that the continuous terrace plan, stretching unbroken from street to street, is doomed, and that the small block arrangement put forward by town-planning enthusiasts and recommended by the various Government Housing Committees will lead to blocks of dwellings being limited to twelve houses at the most.

This alone will be a great advance, but the bogey of monotony can be further eliminated by carrying out the following suggestions:

(a) By using different types of roof, i.e.,



DESIGN FOR REINFORCED CONCRETE COTTAGES.



making some flats, some pitched, and others of Mansard type.

(b) By breaking general frontage lines of building and placing the blocks of cottages at varying distances from the roadway.

(c) By using different colours of wall finish by the addition of various oxides and colouring matters to the external faces.

If these suggestions be carried out and the flat roofs be sometimes carried over the walls for a good distance a deep shadow will be contrasted to the light wall face below, and we can imagine a village of such homes set among gardens and trees as being quite as picturesque as many of the village streets that are held to typify the beauty of the English countryside.

Having considered the objections raised to concrete construction for houses, we may now consider the advantages which would result therefrom, chief of which are:

1. Durability.
2. Risk of damage by fire would be reduced to a minimum.
3. A concrete cottage would be vermin-proof and far more sanitary than one of brick and timber construction.
4. Upkeep charges would be lower.

#### *Durability.*

It is well known that concrete improves with age and that it is not affected by exposure to the weather to the same degree as bricks and stone, neither does it shrink, warp and decay like timber.

#### *Fire Risks.*

The concrete house would possess nothing but the joinery and fittings for fire to feed upon, and although it may be urged that the risk of fire in domestic dwellings is small, statistics of fire insurance companies show that small fires mostly originating where timbers run near or into flues are far more numerous than is generally supposed.

Whilst dealing with the question of the fire-resisting qualities of concrete, it may be stated that the low conductivity of concrete, which renders it such an admirable fire-resisting material, also tends to make a building of this material cool in summer and warm in winter. Experiments made in America between similar buildings of concrete, stone, brick, and frame construction showed a saving of 20 per cent. in fuel costs for the former.

#### *Absence of Vermin.*

Floors and partitions of concrete provide none of the hollow spaces that abound where joists and studding are used, and give no possibility of rats and mice making their dwellings therein. Possessing no organic materials on which vermin and parasites can develop, the concrete house, if kept clean, should be perfectly hygienic.

#### *Construction.*

Concrete may be employed in several forms for cottage construction, but can be briefly divided into five classes:

1. Monolithic construction.
2. Concrete block and slab construction.
3. Unit construction.
4. Reinforced construction.
5. Piers and thin wall filling.

Monolithic construction is used in the foundations of all types of structures, but so far it has not been found to be an economical form of construction for this class of work.

The "Edison concrete cottages" are closely allied to this type, but as the cost

of the iron moulds necessary for their erection is between £1,000 and £1,500 for each dwelling it will be seen that a large number of houses must be erected to the same design before any saving is made; and beyond this the monotony resulting from such standardisation is at once apparent.

Block and slab construction has so far been the favoured method in this material, and has been used for walls in the form of (a) hollow blocks, (b) solid blocks, (c) thin slabs as partitions and internal walls.

The blocks are made either by the "wet" or "dry" process. In the former more moulds are required to allow blocks to harden before it is taken from the mould, whereas in the latter it can be at once removed, but the "wet" process generally gives blocks that are more impervious to weather conditions.

One of the advantages of block construction is that, the blocks being larger than bricks, the cost of laying and mortar is less, but in general no scheme should be designed in which blocks are used that would require more than one man to lift them, and experience has proved that the best size is 19 in. by 9 in. by 9 in. for hollow and 18 in. by 9 in. by 4½ in. for solid external wall blocks.

What is sometimes called a unit concrete system consists of forming moulds on the ground for large sections (up to the size of one complete wall) of a building, filling in the concrete, and when this is set hoisting the whole section into position. With few exceptions this method has been but little used in this country, but it is common in the United States.

Reinforced concrete construction, as generally understood, has little application to cottage buildings, for the strength of the material is great enough for the work it has to carry out. Reinforcement of simple character may, however, be needed for lintels, beams and roof and floor slabs, especially if all internal divisions are fixed as partitions, a method, however, of which we do not approve.

Generally speaking, no rods of greater diameter than half an inch are needed for cottage work, and for floor slabs expanded metal and small wire mesh give satisfactory results, but in all cases it is wise for the builder to obtain professional advice as to their sizes and position in the structure.

#### *Piers and Thin Walls.*

This system consists of a series of piers which may be built either monolithic or with cast blocks. Where the latter, it is usual to make them hollow and to thread them over with reinforcing rods firmly fixed in the foundations. These hollow spaces are then filled with concrete poured in from the top, and the ends of the rods are used as fixings for the beams tying the whole structure together.

These piers and beams, being strong enough to carry the whole weight of the structure, thin slabs sufficient to keep out the weather are filled in between them, and to save expense the whole building should be designed as a multiple of some unit between each of the piers. Out-to-out measurement of doors and window frames should also conform to this unit, and in this way needless cutting of slabs or making of odd sizes is avoided.

Very thin slabs are sufficient, but to ensure dryness in the dwelling two slabs 2 in. apart, each with its own damp-course, should be used, the outer one rendered or finished with rough-cast and the inner one plastered.—Adapted from the "Indented Bar Bulletin."

## EXPORT PRICES FOR IRON AND STEEL.

The following statement is issued by the Press Bureau:—

During the war, while the Government was practically the sole purchaser of iron and steel products, the Ministry of Munitions adopted the policy of stabilising prices in the iron and steel industries by paying direct to the makers certain increased costs due to war conditions.

Now that the Government is no longer the sole purchaser, it is desirable to place the industry on an economic basis as early as possible, but the great increase in prices which would result from an immediate withdrawal of all subsidies would seriously prejudice the resumption of ordinary commercial work and induce dislocation not only in the iron and steel trades, but in the wide field of engineering and other activities dependent on iron and steel.

The Government has, therefore, decided to remove the subsidies in two stages. Those applicable to steel-making will be removed on January 31, 1919, when the revised schedule of maximum prices for steel will take effect. Those applicable to pig iron will continue to April 30, when it is proposed that all subsidies should cease entirely. This will involve a further adjustment of steel prices, but post-war conditions are not yet sufficiently stable to warrant the fixing of prices after that date.

Arrangements have been made in consultation with the trades concerned to secure an equitable distribution of pig iron and steel so long as any subsidies continue. The powers possessed by the Government under the Defence of the Realm Act will, if necessary, be exercised to prevent any undue holding of subsidised material.

It is not, however, intended that Government subsidies should be used to enable exports to be made to overseas markets less than the full cost. The Ministry has, therefore, issued lists of export prices for both iron and steel calculated to include the full amount of the subsidies. The Government will levy as a drawback on exported iron and steel the difference between the home and export prices.

The present basis price of bar iron for hot delivery, namely, £14 15s. per ton f.o.b. makers, will remain in force until further notice.

#### *Export Prices—Pig Iron.*

The following fixed prices shall be charged for deliveries for export on or after November 18, 1918, until further notice, except for deliveries under contracts made prior to November 16, 1918, for which priority certificates and export licences have already been obtained.

These prices are for delivery f.o.b. of shipment for net cash against documents, and apply equally to makers, merchants, and agents; makers may, however, allow to merchants or agents a discount not exceeding 1¼ per cent.

A merchant or agent purchasing iron for export shall make a declaration in writing to the iron makers to that effect in respect of each such purchase.

#### HEMATITE PIG IRON.

	Per ton
East Coast Mixed, Nos. 1, 2, and 3.....	48 5
Scottish, do.....	8 1
Welsh, do.....	8 1
West Coast, do.....	8 1

#### MALLEABLE HEMATITE PIG IRON.

Refined Cupola Cast .....	10 10
Cast direct from Blast Furnaces, large Pig, all grades .....	9 5



FOUNDRY AND FORGE PIG IRON.	Per Ton.
Leicestershire, and Nottingham, No. 3 Foundry	7 5 0
Leicestershire, and Nottingham, No. 4 Forge	7 5 0
Leicestershire, and Nottingham, No. 3 Foundry	7 2 6
Leicestershire, and Nottingham, No. 4 Forge	7 0 0
Leicestershire, and Nottingham, No. 3 Foundry	7 7 6
Leicestershire, and Nottingham, No. 4 Forge	7 7 6
Leicestershire, and Nottingham, No. 3 Foundry	7 0 0
Leicestershire, and Nottingham, No. 4 Forge	6 17 6
Leicestershire, and Nottingham, No. 3 Foundry	7 7 6
Leicestershire, and Nottingham, No. 4 Forge	7 5 0
Leicestershire, and Nottingham, No. 3 Foundry	7 12 6
Leicestershire, and Nottingham, No. 4 Forge	7 10 0
Leicestershire, and Nottingham, No. 3 Foundry	8 4 0

BASIC PIG IRON.	Per Ton.
Leicestershire, and Nottingham	7 10 0
Leicestershire, and Nottingham	7 7 6
Leicestershire, and Nottingham	7 7 6
Leicestershire, and Nottingham	7 7 6
Leicestershire, and Nottingham	7 7 6
Leicestershire, and Nottingham	7 7 6

ect to all usual variations for quality have been sanctioned by the y for the home trade.

back is payable to the Govern- exports of the above materials on of subsidies.

y of Munitions, rthumberland Avenue, W.C.2. November, 1918.

#### Port Prices—Iron and Steel.

following fixed prices shall be for deliveries for export on and November 18, 1918, until further except for deliveries under con- made prior to November 16, 1918, h priority certificates and export have already been obtained.

prices are for delivery f.o.b. port ent for net cash against docu- and apply equally to makers, mer- and agents. Makers may, how- low to merchants or agents a dis- of exceeding 1½ per cent.

hant or agent purchasing steel port shall make a declaration in to the steel-makers to that effect in of each such purchase.

Fixed Basis Prices.	Per ton.
List.	£ s. d.
ge, and Tank Plates	A 16 10 0
ates	C 17 10 0
Plates	J 18 0 0
ge and Tank Thin Plates	B 19 10 0
d other Sectional Material	D 16 2 6
les, Tees and Flats	E 20 0 0
are and Hexagons	H 16 2 6
nds, Squares and Hexagons	F 17 10 0
o, per yard and over	G 20 0 0
er 60 lb. per yard down to and	15 10 0
er 50 lb. per yard down to and	15 12 6
er 45 lb. per yard down to and	16 10 0
er 40 lb. per yard down to and	18 10 0
er 30 lb. per yard down to and	19 0 0
er 20 lb. per yard down to and	19 10 0
er 14 lb. per yard	20 0 0
er 14 lb. per yard	20 10 0
Sch. E, description (A)	13 10 0
Sch. E, description (B) and (C)	15 0 0
ame as for Home Sales—see	
nd list. The above prices apply	
supplied either by steelmakers	
ers,	20 0 0

ack is payable to the Government on the above materials on account of sub-

of Munitions, thumberland Avenue, W.C.2. November, 1918.

steel prices to come into opera- home deliveries on and after 7 1, 1919:

ge and Tank Plates .....	£	s.	d.
Plates, Mild Steel, Diamond	14	0	0
.....	15	10	0
es .....	15	0	0
ge and Tank Thin Plates .....	16	0	0
Bulb Angles .....	13	12	6

Small Angles, Tees and Flats	Per Ton.
Joists	16 10 0
Rails, 60 lb. per yard and over	13 12 6
Rails, 50 lb. per yard and over, but under 60 lb. per yard	13 7 6
Rounds, Squares and Hexagons	13 10 0
Small Rounds, Squares and Hexagons	14 5 0
	16 10 0

#### ROLLED BLOOMS, BILLETS, AND SLABS.

(a) Base price covers all ordinary rolling down qualities up to .25 carbon, inclusive, or up to 32 tons per sq. in. tensile (including Lloyd's ship quality), or where the maximum percentage of sulphur or phosphorus is not specified to be below .06. Test at maker's works is to be final	11 12 6
(b) For forging small articles, such as Shell Noses, Baseplates, Fuse Parts, etc., where neither special cropping of the ingot nor special analysis is called for, tensile not exceeding 32 tons	12 15 0
(c) Hard qualities (such as wire qualities) above .25 carbon to .85 carbon, inclusive, where no special cropping of the ingot is called for and where maximum percentage of sulphur and phosphorus is specified to be .06, and for steel specified with tensile strain up to 45 tons per sq. in.	12 15 0

INGOTS.	Per Ton.
(g) Ingots for re-rolling, of same quality and description as detailed in (a) above	9 5 0
Ingots for forging—	
Weight up to 7½ tons, inclusive	13 17 6
Weight over 7½ tons and up to 20 tons, inclusive	14 17 6
Weight over 20 tons	15 17 6

Fixed Basis Prices.	Per Ton.
£ s. d.	
Rails, under 50 lb. per yard down to and including 45 lb. per yard	15 2 6
Rails, under 45 lb. per yard down to and including 40 lb. per yard	17 0 0
Rails, under 40 lb. per yard down to and including 30 lb. per yard	17 10 0
Rails, under 30 lb. per yard down to and including 20 lb. per yard	18 0 0
Rails, under 20 lb. per yard down to and including 14 lb. per yard	18 10 0
Rails, under 14 lb. per yard	19 0 0
Hollow Bridge Rails, 45 lb. per yard and over	15 10 0

All the above prices apply to steel supplied either by steel-makers or re-rollers.

The above prices may be subject to revision should any substantial change take place in the cost of wages or materials.

#### WAR MEMORIALS.

##### Gladdon Dock, Lancaster.

The inhabitants of Thurnham and Gladdon Dock have decided to erect a village hall as a war memorial.

##### Leeds.

At Leeds an Executive Committee has been appointed in connection with that city's £250,000 war memorial scheme.

##### Memorial for Lancaster.

A public meeting is to be held at Lancaster to consider the form of a proposed memorial to townsmen who have fallen in the war.

##### Alfreton.

Alfreton Urban Council have had under consideration the offer of Captain Palmer-Morewood, of Alfreton Park, of a site for a cottage hospital and £500 towards the cost of its erection as a war memorial.

##### Leys School.

The Leys School War Memorial fund now exceeds £32,000, on which a first charge of £20,000 has been made for the foundation of entrance and leaving scholarships in memory of those who have fallen in the war. It is now intended to secure such additional support as will provide for the erection of a memorial hall which would be a fitting commemoration of the part which has been played in the

war by old boys of the Leys. Sir Aston Webb has designed such a hall, which, fronting on the Trumpington Road, would constitute a striking architectural feature on the entrance into Cambridge. The additional amount which will be required is about £10,000, and promises of support should be sent to the Hon. Secretary at the school.

##### Memorial Shrine at Dover.

The Bishop of Dover recently unveiled a shrine in Holy Trinity Church in that city to the memory of the men who have lost their lives in the Dover Drifter and Trawler Patrol. Rear-Admiral Dempier and many officers were present.

##### Bangor.

At a public meeting held at Bangor for the purpose of considering the provision of a war memorial in the town, a large and influential committee was formed to go into the matter, and to report to a subsequent public meeting.

##### Peak District.

Considerable interest has been aroused in the Peak district by the decision of the Unitarian body to establish a Convalescent Home (as a war memorial) for ex-soldiers and sailors, and others, at a cost of £10,000. The memorial is to be erected at Great Hucklow in the parish of Bradwell, and about two miles from Bradwell, Tideswell, and Eyam.

##### Glasgow.

Glasgow has as yet had no civic lead in the matter of a suitable war memorial, but the subject is not being lost sight of in other directions. The University, for instance, has already a scheme in hand for honouring the men of Gilmorehill who served King and country. It is probable that the memorial may take the form of a chapel to be erected on the west side of the present buildings.

##### Overseas Memorial.

For the use of men and women from overseas for all time an Overseas Building is to be built in the heart of London as a war memorial. A scheme is now being formed by the Central Committee of the Overseas Club and Patriotic League, General Buildings, Aldwych, W.C.2, whose headquarters the new building will hold in addition to an overseas information bureau, trade bureau, and employment bureau.

##### "An Imperial Memorial."

The Veterans' Association have proposed a scheme for an "Imperial Memorial," which is to include the erection and endowment of buildings for a "Veterans' Club," with at least 1,000 bedrooms, and a convalescent home for men discharged from the Forces. To carry out the project on adequate preliminary lines, the minimum sum of £1,000,000 will be required. The address of the Veterans' Association is 47, Bedford Row, W.C.1, where donations will be received.

#### COMING EVENTS.

##### MONDAY, DECEMBER 16.

R.I.B.A., 9, Conduit Street, W.—General Meeting. Mr. Raymond Unwin, F.R.I.B.A., on "Housing: The Architects' Contribution," at 5 p.m.



## THE WEEK'S NEWS FROM FAR AND NEAR.

### *Church Bells as War Memorial.*

A peal of eight bells is to be placed in the tower of St. Stephen's Church, Clapham Park, London, S.W., as a memorial to the men of the parish who died on active service.

### *Italian Distinction for an Architect.*

Major B. J. Ryan, Royal Engineers, a student of the Society of Architects, who received the Military Cross some little time ago, has recently been appointed a Cavaliere of the Crown of Italy for his services on the Italian front.

### *New Tower for Hove Church.*

A sum of £10,000 has been left by the late Mr. George Baldwin Woodruff, J.P., former Mayor of Hove, to the vicar and churchwardens of Hove for the building of the tower of the parish church of All Saints, Hove.

### *Cement Shares in Demand.*

According to the "Financier and Bullionist," buyers are coming forward for cement shares, after a brief spell of quietness. "They cannot leave them alone for long, and there is no reason why they should when serious regard is paid to the prospects of the industry and the likelihood of the companies reaping big harvests for some years to come."

### *House and Town Planning Exhibition at Leeds.*

A house and town planning exhibition has been opened in the Leeds Art Gallery by the Lord Mayor (Mr. Joseph Henry). The exhibition has been arranged by the Leeds Civic Society and comprises graphic plans and detailed diagrams referring to the construction of sanitary dwellings and town improvements. The Leeds Women's Citizen League exhibit a large and varied collection of domestic appliances, and there is also a model of an ideal playground, replete with the most modern accessories of recreation for the children. The exhibition, which is free, will remain open from December 21.

### *War Risks: Cargo Insurance.*

Notice is given that on and after December 9, 1918, the granting of fresh insurances on cargo against war risks by the War Risks Insurance Office will be discontinued except in special cases. It is the desire of the Government to restore as quickly as practicable the normal conditions of the insurance market. The special cases referred to are those in which, owing to the large amount to be insured or for other reasons, the applicant is unable to cover in the open market at a reasonable rate. The Underwriting Office will remain open for the closing of provisional insurances, and it is requested that holders of Provisional Certificates will on receipt of the necessary particulars proceed to close the same without delay.

### *Reconstruction and Redecoration.*

The town of Dudley (writes a correspondent of a local newspaper), in common with other towns in the country, will, when peace is actually arrived at, and when the winter passes away, have to be repainted. Its public and other buildings, including property of every kind, are in a state that must be altered. Could not a town of the importance of Dudley, through its chief property owners, supported by the authorities, organise a scheme for repainting its chief streets, its Market Place, its residential quarters, as a contribution towards

its peace celebration. It would be a lasting memorial of our great victory. Once carried out on artistic lines, it would not only make the borough and its suburbs a more pleasant place to live in, but would be a memorial of the great victory for many years to come. Through our loyalty we have for four years forsworn paint. Now, if we were all to paint together at about the same time, we could make a great improvement. We want nothing gaudy or grand, but a repainted town, on a system which would transform many of our dull and dingy thoroughfares into places far brighter and pleasanter to live in or pass through.

### *Accommodation of Government Departments.*

With regard to the taking over of the Hotel Windsor from the National Service Ministry by the Ministry of Labour, it is understood that the existing National Service staff will be gradually absorbed by the Ministry of Labour for the work of demobilisation. The accommodation problem is now giving more trouble to the Office of Works than at any time previously. While they are not yet in a position to dispense with any existing departments, they must set going the preliminary machinery for demobilisation. The great influx of visitors to London has increased the difficulties.

### *Annual Report of First Garden City.*

The accounts of this company for the year ended September 30 last show a net profit of £5,967. A dividend of 2½ per cent. is recommended, this being the first distribution for four years, and the directors feel justified in making the payment in view of the armistice and the hope of lasting peace in the future. There was a further addition of £550 to the ground rents during the year, making a total of £8,182 created since the commencement of the company, while in its health and operations the city's record for the twelve months was very satisfactory. It is interesting to learn that sites for the erection of 600 cottages have been offered to the Letchworth Parish Council, and the directors hope that Government sanction and suitable help for the immediate erection of these cottages will be granted. Urban powers having been granted, an Urban Council for Letchworth will be formed in April next.

### *The Squares of London.*

A paper by Mr. E. Beresford Chancellor, entitled "The Squares of London," was read on December 5 at a meeting of the London Society, held in the hall of the Royal Society of Arts. Mr. Chancellor considered that the squares were likely to become the prey of speculative builders, which he deplored, because they were unique. St. James's Square was one of the oldest in London, and was the first to become a residential centre. Norfolk House was the keystone to this square, and was the only private residence in London in which a monarch had been born. This monarch was George III. Grosvenor Square was the most magnificent. Soho Square was one of the most interesting by reason of its associations with Charles II. Red Lion Square was famous for its artistic residents in years gone by, among whom were Burne-Jones and Rossetti, just as Gough Square would be associated for ever with the name of Dr. Samuel Johnson. In conclusion, Mr. Chancellor appealed for the preservation of these squares, not only on account of their asso-

ciations and beauty, but because of their health-giving qualities, and he paid tribute to the work of the L.C.C. in preserving open spaces for the general good of the public. Lord Bryce, who presided, deplored the lack of good architectural buildings in our squares, which, he compared very unfavourably with houses on the Continent.

### *"The Luck of Eden Hall."*

It is rumoured that Eden Hall is to be offered for sale. Should the take place it will bring to an end an association of nearly five centuries of family of Musgrave with Eden Hall. The family were seated at Musgrave in the reign of King Stephen, afterwards chased and moved to Harcla Castle, Kirkby Stephen, and in the fifteenth century acquired Eden Hall by the marriage of Thomas Musgrave with heiress of Sir William Stapleton. They have always taken a prominent part in public affairs in the Border Counties, some of the Musgraves were notable figures in the time of Border warfare. The famous "Luck of Eden Hall," a sixteenth century Venetian glass goblet, said to have been taken from the fairies dancing round St. Cuthbert's Well, is attached to the legend: "If e'er this cup should break, farewell the luck of Eden Hall." A proposal has been made, and is being considered by representative men in the counties, that a portion of the estate should be acquired jointly by the County Councils of Cumberland and Westmorland for the purposes of a forestry school for the settlement of soldiers on the land.

### *Waterproofing Concrete Blocks.*

Messrs. Kerner-Greenwood and Ltd., King's Lynn, have issued a pamphlet (Circular No. 15) describing in detail three methods of waterproofing concrete blocks made from old brick, and similar porous materials. A specification for the three methods is set out in further relation to the housing problem, some uses of Pudloed cement for concrete building are enumerated. The firm, that, after devoting much time and considerable expense to the development of safe methods of permanently waterproofing cement-concrete blocks, and also structures built with non-waterproof blocks, they have assured themselves that blocks made as they recommend will not crack, laminate, or ever become permeable, the waterproofed portion becoming an integral part of the block, of which, over, the face then possesses a permanent colour, never becoming rain-sodden or dirty. Experiments have proved that 4-in. Pudloed cement facing, applied to the block is being made, is sufficient to waterproof the most porous block. This is the first method for which a specification is given: the other two methods respectively to rockfaced and ornamental facings, for which a dense mixture is used, and to porous concrete blocks that have been waterproofed during manufacture, may be plastered with Portland cement mortar, when exterior rendering may be finished with roughcast, sand and pebble-dash, or plain or lined. Among the many applications of Pudloed to the housing problem, we note its recommendation for damp-courses, flat bay-window roofs, tanks and cesspools, sanitary pipe-joints, and as a protective lining to prevent the pollution of water. This most useful pamphlet can be applied to the company.



# THE ARCHITECTS' AND BUILDERS' JOURNAL.

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TOTHILL STREET, WESTMINSTER.

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## NATIONAL PAPER ECONOMY.

*We would ask our readers to co-operate with us in making the efforts of the Government Paper Committee to eliminate waste. This they may do in one of two ways—*

*By placing a direct subscription for the Journal with the Publisher, or*

*By placing with a newsagent an order for its delivery.*

### Dr. Addison and Demobilisation.

OUT of the welter of words that deafened and bewildered us during the last week of the General Election there emerged one clear comforting utterance. It was the declaration by Dr. Addison, at a luncheon given to him at the Painted Rooms last Wednesday, that the Ministry of Reconstruction was "desirous of securing as early as possible the restoration of the trades and industries of the country, and the re-employment of the people in those trades and industries." That he was tossed upon the heap of vague generalities has arisen during the week to the size of a mountain; but this, at all events, is specific: "provisions for the bringing in of raw materials, in order to speed up the restoration of employment, were given out on Monday morning, November 11." It was prompt on the hour of the armistice, and of good augury for the alertness of the Ministry in which Dr. Addison presides. Even more important, and equally defiant of the most cherished notions of red tape, was the statement that he proposed to short-circuit demobilisation with respect to any man who had a job waiting for him. He proposed, in the first place, to facilitate communications between the employer and the workman. If an employer had a job and wanted a man, and a man was willing to go, that was felt to be sufficient authority to secure that he was placed on a rota for demobilisation." That is distinctly encouraging, as far as it goes. Given the pivot men of the key industries, we shall be able to restore with the least possible delay those of our deflated and stricken businesses that have survived their afflictions.

### Interrupted Professional Training.

Employers who have not already applied for the release of their men will no doubt take prompt action on Dr. Addison's promise. Nor did the Minister jibe with the corollary: "In the next place, there was a special class of men they were anxious to get released upon the demobilisation rotas, and that was a class whose training for various civil or professional vocations had been interrupted, and who, when they were demobilised, would be able to resume their training without delay. In these cases, also, the Ministry were short-circuiting arrangements on the understanding that the men could resume their training, as the training was there for them." This is no more than fair to the young men and their parents and guardians, and would therefore be fully justified if there were not, as there certainly is, the still more urgent consideration that our young men are our most valuable national

asset. If their previous training were wasted, and their careers were spoilt, the greater injury would accrue to national rather than to individual interests. If every average productive citizen is worth so many hundreds of pounds to the State, the citizen whose education and training have set up a presumption that he is of more than average capacity, is *ipso facto* of still higher value, both positively and inferentially—for his immediate worth in efficiency as well as for his higher promise of future development, of capacity to invent, organise, control, negotiate. It were well, therefore, not only to set these young men free to resume their training, but to afford them every assistance in it. In far too many instances, an interrupted career implies cessation or diversion of the funds necessary to pursue that career. Surely the national interests should not be allowed to suffer from an accident so easily remediable. National scholarships to meet such cases should be immediately founded; and when they had fulfilled their immediate purpose they need not be abolished. Other and equally profitable uses could be found for them without search. These things should not be left to the initiative of Dr. Addison, nor even to the collective intelligence of any Government. Corporations having special information and insight—for example, the Royal Institute and the Society of Architects—should make it a duty in the interests of good government to impart what they know with regard to present national needs.

### Distributing Demobilised Labour.

No doubt the excellent example Manchester has set in organising demobilised labour will be generally followed. Arrangements having been made for the early release of large numbers of pivotal men connected with the building trades, the Manchester advisory committee has formed a sub-committee to distribute the labour among employers applying for it. Carlyle has said somewhere that the most pitiful sight on earth is a man looking for work and finding none. Now that the position is reversed, and employers are looking for workmen and finding none, the danger is that, if the allocation is not properly regulated, the labour will be monopolised by the wealthy, whose high bids for it will inflate its cost. But there seems to be a very hazy notion about the meaning of the expression "pivotal men." If a foreman is a pivotal man, and the rank and file of the workers are not pivotal men, a farcical tragedy would ensue upon the release of the former while the latter were kept with the forces. According to the dictionary, a pivot is "a short shaft or pin on which something turns or oscillates," while its military meaning is "a man on whom a body of troops wheels." It would be more pathetic than amusing to see a pivotal builder marking time for a month or two until the non-pivotal men were allowed to come forth and "wheel on" him. All builders should be regarded as pivotal men, if that is the condition of their release; for their aggregate work is pivotal in the sense that in the reconstruction everything turns on building, whether of houses or of factories. Or perhaps some technicians would prefer to call building a "key industry"; but builders will not care a jot what they are called, if only they can get promptly to work.



### Use and Abuse of Published Designs.

A correspondent has been at the pains to collect the issues that, sooner or later, will come up for judgment before the properly constituted professional tribunals. They are the old familiar bones of contention, and there is nothing strikingly new in our correspondent's comments on them. In printing his article, we do not commit ourselves to his opinions. That a technical journal should be a thick-and-thin partisan of this, that, or the other policy is absurd on the face of it, and on contentious questions it has been always our desire to give all sides a hearing. This policy of "open court" does not exclude our own right of comment; and there is, in the article under notice, a specially provocative passage—that in which it is alleged that the community "gets advice gratis from the architect whose designs and plans are published in journals and magazines purchased by the general public." Quite obviously this accusation does not put professional journals on their defence, as it distinctly mentions an appeal to the laity. Nevertheless, the better to avoid misconception, it may be well to reiterate the trite (but we believe, sound) contention that the publication of designs in the professional papers can at the worst do but little harm, against which can be set a vast amount of good. There is no need to amplify this assertion: the educational and other advantages of publication are positive and self-evident, while the disadvantages are entirely dependent on that contingent liability to abuse from which no good thing is wholly free. For the moment, that is all we care to say on a subject on which discussion might be postponed until the Greek Kalends without a single soul of us being one penny the worse.

### Overgrown and Sooty London.

London is too large, and its growth should be stopped. So it is being argued in the daily Press. But how to stop it? Queen Elizabeth tried to, but the modern maps of Greater London show the colossal extent of her failure. London being less a city than a congeries of large towns, each with its mayor, with a Lord Mayor at the centre rather than at the head of affairs, has less real corporate character than any other city in the Kingdom. William Morris was, in a sense, a Little Londoner. He did not like to see it so rapidly qualifying to deserve Cobbett's description of it as "the Great Wen," and exhorted us, in his "Earthly Paradise," to "dream of London small and white and clean, The clear Thames bordered by its gardens green." And alas! nobody had the hardihood to contradict Mr. Beresford Chancellor when he said, recently, in his delightful lecture on the London squares, that there is never a blade of grass in them that is not befouled with soot. Already the London County Hall, what there is of it, is dreadfully soiled with rain-borne soot, and the kind of "gardens green" with which it will border the Thames may be thence imagined. It may be impossible, and even undesirable, to stop the growth of London, but there should be no difficulty about making and keeping it clean. As it is not—and as a capital city should not be—a place of manufacture, but should be concerned chiefly in legislation, law, and commerce, soot should not be allowed to sully it; then the absence of grime would be an inducement to build beautifully.

### London Herself Again.

The worn expression "London herself again" has been provoked by the visible signs of a return to peace and sanity. What our American guests have described as the "canned statue" of Charles the First is taking the air again, its corrugated iron case

having been removed, and the inner lining of sags abstracted, to the great satisfaction of American, Colonial, and foreign visitors, who now have the opportunity of seeing the only outdoor statue in London that will bear the closest critical examination. Then, again, the doors of museums are being—not exactly thrown open, as it were cautiously set ajar; an exception to timidity being the Natural History Museum in Cromwell Road, which was "thrown open" in the widest sense on Monday last; so that, when we have seen the stuffed monkeys and the Dacotah statue, our overseas visitors may conclude that London, after all, is rather less dull than dirty. Lord Ilchester expressed the general view on this depression when he wrote the other day: "The glory of our public collections is due in the main to individual bequest and private munificence. . . Hence by continuing at this conjuncture to deny a sight of England's splendid heritage to those who have nobly collected from all parts of the Empire to fight her battles, and to her visitors from Allied countries the Government are betraying the trust imposed on them by the generous donors of the past." It is also a great thing to have scraped off from the plinths of public buildings and monuments the hideous posters with which they were so long figured by Departments having more zeal than taste, and more paper and paste than they should have been allowed under a just scheme of rationing.

### Retirement of Sir E. J. Poynter, P.R.A.

Sir Edward Poynter's retirement from the Presidency of the Royal Academy after twenty-two years' tenure of the office, closes an interesting if somewhat unexciting chapter in the history of British art. He began to reign in what has been denoted "the era of the smoking-cap with a tail, the velvet jacket, and the luxuriant beard," when a sort of sham-Bohemianism—of which, however, neither Lord Leighton nor Sir Edward Poynter was at all typical—was the dominant note. The smoking-cap and the "hirsute adornment" as they were called, seemed somehow emblematic of the overdone kind of art produced by their wear, and consumed with avidity by a public that played croquet and was not long emancipated from the tyranny of the crinoline. Poynter's pictures appeared as a revulsion from the hideousness of everyday life of the period. It was an inexpressible relief to turn from the monstrous regalia of croquet-lawn to the breezy classicism of a Poynter picture—"A Visit to Aesculapius," "Perseus and Andromeda," "Atalanta's Race," or whatever, although the figures were not so severely Greek to chill the spirit of the visitor to the Academy. He preferred the modernity (very ancient now) of Frith's "Derby Day," "Railway Station," and of misguided attempts to hold the mirror, not to Nature, but up to the artificial follies of the moment. Poynter's Greek figures always seemed to the visitor to have in them rather less of the Hellenic than of the Hebraic spirit; as if he could never quite shake himself free of his "Meeting of Solomon and the Queen of Sheba," but, anyhow, they did much to improve a saner popular regard for graceful form and less crass colouring than that usually found on the canvases of the time, which were so many studies in mahogany stain. Elected A.R.A. in 1869, Poynter became Slade Professor at University College London, in 1871. As Principal of the National Training School, from which position he retired in 1881, he gave a distinctly classical bent to the school of art in this country. He is the son of an architect, and it will be remembered that he designed architectural and tile decorations for the grillage at South Kensington.



# PROPOSED RECONSTRUCTION OF THE ARCHITECTURAL AND SURVEYING PROFESSIONS.

BY REGINALD W. LONE, A.R.I.B.A., P.A.S.I., M.R.San.I.

view of the many sweeping changes that are taking place on all sides as a result of the greatest war in history, it is no exaggeration to say that members of the architectural and surveying professions are dissatisfied with the prevailing conditions of professional practice, both technical and financial. Little or no action, apparently, has been taken to bring into or amend these conditions, nor has any plan for future action been formulated to deal with post-war problems, which must seriously affect future practice. It is only fair to those who during the war have been in authority in the professional institutions to say that the view they have doubtless held is that no radical change or changes of a highly controversial nature should be discussed or made during the emergency on active service of so many of their members. As fair and reasonable as this attitude appears, yet in view of the armistice, immediate action should be taken to investigate, discuss, and consider all questions. Only by rapid action can it be possible to make a definite policy ready for the final consideration of the professions as a whole, by the time demobilisation has taken place.

The following criticisms and suggestions are made for one object only, namely, the hope that a conference, to be attended by members of all sections of the professions concerned, may be arranged to discuss and decide upon the best course of action to meet the present economic situation of this country, which at present is full of so many "unknown quantities."

## *Brief Analysis of Some of the Unsatisfactory Conditions of Professional Practice.*

**The Need of Legal Registration.**—The absence of legal registration appears to be due mainly to the conflicting opinions as to what qualifications should be related as essential in an Act of Parliament. Diverse opinions are held by:—

(a) Practitioners, not members of any of the established professional institutions, who are not wholly dependent (financially) upon their practice.

(b) Practitioners as above, who are dependent (financially) upon their practice.

(c) Practitioners of either category who, on aesthetic or technical grounds, cannot recognise the principle of qualification by examination.

(d) Practitioners of either group a or b, who agree with registration, but who object to the existing methods of education and examination on the grounds that they are insufficient for the purpose.

(e) Practitioners who classify themselves as "architects" or "surveyors," or both, and who technically become members of the professions, but actually refuse membership of any of the professional bodies and ignore the generally accepted obligations of professional practice.

**The Need of Central Control.**—It will be surely admitted that central control as to education, examination, and conditions of professional practice must be more satisfactory than the existing order of things.

**The Various Methods of Professional Education Present in Force.**—(a) The present form of legal education is of an expensive nature, making orthodox entry into the profession only possible to a minority, namely, those possessing means. In addition to this action, on entering the office chosen for him, the student gets no standardised or organised curriculum of training unless those responsible for him are prepared to pay additional fees, so that he may attend one of the professional schools. The common result is that many men who are unable, for financial reasons, to

take up this expensive course, work as draughtsmen, and eventually start in practice without any recognised training or qualification, and finally become members of the group referred to in paragraph 1, sub-paragraph e. Here, again, one finds strong evidence of the need for legal registration.

4. **The Need of a Standardised Curriculum of Professional Training, Together With Standardised Qualification.**—While it is recognised that individualistic methods of education, especially on the artistic side, are to be encouraged, yet it must appear obvious that such encouragement should only be given after it has been definitely ascertained that the fundamental professional knowledge required for "practice" and for the passing of the qualifying examination has been fully arranged for in the curriculum of all schools. There is no standard examination or test, nor is there any standardised curriculum of training at present in operation.

5. **Professional Fees.**—The now generally accepted custom of charging a universal minimum fee on cost of work (by architects and quantity surveyors) appears to be subject to criticism on the following grounds:—

(a) The commercial world (wherein most of the clients of the profession are found) view the employment of the practitioner with suspicion owing to the obvious, though unjust, inference that, in his own interest, he will keep up costs as high as possible. This suspicion is further aggravated by fees being charged upon all extras incurred on the original contract.

(b) The junior and less experienced members, by being required to charge the same minimum fee as their more experienced and better-known seniors, are subjected to obviously unfair competition. Also the building public are able to avail themselves, in the majority of cases, of expert assistance far too cheaply, which tends very seriously to lower the status of the profession.

6. **Payment and Employment of Assistants.**—It will doubtless be agreed that under the above heading is to be found one of the most satisfactory prevailing conditions, and the one which will probably affect the majority of the members serving with the forces.

(a) The pay generally offered is ridiculously low considering the training and experience that are required of an assistant.

(b) The practice of employing "improvers" (that is unpaid assistants) is extremely unfair; it must be obvious that men who, owing to their financial position, are able to accept such berths, are doing a great deal of harm to their less fortunate brethren.

7. **Professional Assistance Rendered Gratis: Publicity.\***—A source of professional weakness is the preparation, gratis, of sketch designs, prospective schemes, "proposed cost" surveys, preliminary estimates, etc.; also the extensive publication of detailed designs, plans, etc. in journals and magazines purchased by the general public. Under this paragraph may be found the probable cause of the large amount of building, etc., which is to-day being done without professional assistance. The whole practice is most unsatisfactory for the following reasons:—

(a) The practitioner who is not wholly dependent upon his practice has an advantage over others not so placed, once again causing unfair competition.

(b) The community receives a large amount of valuable information gratis, without any under-

\* For editorial comment upon this statement see page 283.



taking on its own part to carry out the work; also it could often dispense with professional assistance at the time of building, etc., by merely adopting illustrated plans. Severe commercial conditions and the wholesale cutting down of expenses also tend to encourage this practice.

8. Architectural Competitions.—While it must be admitted that a considerable amount of excellent work has been done by the existing professional institutions in connection with the above, yet the now general accepted procedure is far from satisfactory: first it is unjust to many of the competitors, who receive no remuneration for the large amount of work they do. Secondly, these competitions give another instance of the manner in which the general public avails itself of the highest professional skill gratis. Take, for example, a competition which is held for a secondary school to cost £7,000. Premiums of £100, £50, £25 are offered for the designs placed first, second, and third respectively. It may be fairly assumed that anything up to one hundred bona-fide designs will be received by the promoters of the competition. A design for such a building will take from two to three weeks to complete; in addition, the competitor has to bear the expense of a visit to the site, of the necessary paper for and mounting of the drawings, plus the cost of transit of same. The result is that the promoters (usually public authorities) obtain the benefit of the experience and ideas expressed in the 100 designs for the total cost of the £175 expended on premiums, plus, say, £50 for the assessor's fee. In other words, they receive any one design for, roughly, 45s. This must appear to one and all to be a scandalous state of affairs, and without a doubt the status of the profession is seriously lowered thereby.

9. The Need for Specialisation.—It is obvious from the various subjects and many kinds of work with which practitioners have to be fully acquainted, that, with a highly elaborated mode of building, specialisation is highly desirable, if not essential. Little or no specialisation on an organised basis is at present in force.

10. Overcrowding.—This is largely the cause of the low salaries paid to assistants. It is generally agreed that both the professions in question are badly overcrowded, and a pressing need for the raising of the entrance standard is evident to those practising at the present time. Also, the professional experience and assistance required by the general public could be easily rendered by a much smaller number of practitioners.

11. Government and Municipal Building Authorities.—Obviously the large amount of work carried out by the above authorities also lessens the demand for practitioners. It is doubtless argued that these authorities make it possible to standardise certain types of buildings, both with regard to accommodation and cost. But it is doubtful whether the community benefits financially by this procedure. Certainly from the point of view of art the community is the loser. If the public continue to maintain the control of so much building under these authorities the staffs should be recruited from the most skilled members of the profession (by means of examination by the professional bodies), and the rate of remuneration, apart from increased cost of living, should be a great deal higher than it is at present.

12. The Comparative Status of the Professions.—It is perhaps correct to say that the status of a profession is regulated largely by the community's demand for its services. It will be conceded that the professions of architecture and surveying are not generally regarded by the community as essential; rather is architecture looked upon by the majority as a luxury, while the employment of a surveyor is, if possible, avoided. No doubt the complete absence from the curriculum of the elementary and other schools of any

reference to the work done by or the necessity for, the professions in question, is one of the main causes of indifference towards our work.

Taking all these things into consideration, we are able to account for the extensive amount of building etc., which is carried on without any professional assistance. The facts mentioned indicate also a primary cause of the low rate of pay of assistants. Any effort to place the professions on a sounder basis will be useless unless stringent action is taken to ameliorate these conditions.

Before proceeding briefly to outline suggestions for formulating a policy, it is essential to say that, even assuming the majority of members concerned to be in agreement that drastic action is necessary, little or nothing can be achieved unless all are willing to approach the subject with unbiassed minds.

The conflicting opinions now held would have to be put to one side. Only by a coalition of effort can we hope to reconstruct on a more businesslike footing, moreover, so far as the practice of architecture is concerned, it should be stated that the suggestions put forward with a view to making the profession of architecture which has for its object the provision of a livelihood for the practitioner, as well as the furtherance of art, should not to encourage the idea that architecture is an artistic hobby for moneyed individuals.

#### *Some Suggestions for a Future Policy.*

1. Legal Registration.—(a) For the practice of architecture. (b) For the practice of surveying.
2. Centralisation of Control.—(a) For architects and (b) for surveying members.
3. Specialisation.—For senior qualification.
4. Payment of Assistants.
5. Revision of Rates of Professional Fees.
6. Restrictions of Publication of Plans and Designs.
7. Revision of Procedure for Architectural Competitions.

1. Legal Registration.—As sub-headings for the following paragraph the following appear to be necessary:—

- (a) A standard scheme for education and training.
- (b) A standard examination for qualification.

(a) It is suggested that apprenticeship to a qualified practitioner for a term of years, and at a nominal fee, should be the provision laid down to ensure practical training. The central authority should fix a standard curriculum for "artistic pupils," which should include attendance at one of the professional schools to ensure the taking of a technical course necessary for the qualifying examination. All such schools to be registered by the central authority for the purposes of inspection and standardisation of curriculum. It should be pointed out that this suggestion is made merely to guarantee uniform and organised education. It is recognised that individual methods or systems of instruction should be encouraged to the greatest extent.

(b) It is suggested that the qualifying examination should be a degree arranged by the University Boards of Education (as for other degrees) in conjunction with the education committee of the central authority. By this means a high standard would be obtained, and the cost of taking the examination would be considerably reduced. The qualifying examination would make the candidate eligible for election as an Associate of the central authority. The examination syllabus (for surveyors) would need to be modified for the purpose of accommodating the different branches of surveying, e.g., land and forestry, quantity, valuation, etc.

2. Centralisation of Control.—There should be one authority for (a) architects and (b) surveyors recognised in the Act of Parliament necessary for registration.

In view of their number of members and the establishment, it is to be reasonably supposed that



se two authorities would be the Royal Institute of British Architects and the Surveyors' Institution respectively. Some reorganisation as to constitution of these bodies would probably be required. For example, the Council should be composed of Fellows (see paragraph 3) and Associates in proportion to the number of each class on the register. Also the total number of members composing the Council should be such as to be sufficient to form a thoroughly representative assembly. All committees (including the Education Committee referred to in paragraph 1) should be elected by the Council. Presidents and vice-presidents should not necessarily be nominated from senior members. The "powers" of the Council should be carefully laid down, and should provide for enumeration of all matters to be submitted to either a general meeting or a referendum.

**Specialisation.**—Specialisation is probably one of the most vital needs, in view of post-war conditions and problems. It is therefore suggested that a second examination should be instituted for qualification for election as a Fellow of the central authority. It is further suggested that this examination should be so arranged that Associates can "specialise" and sit for examination in the branch (or branches) in which they have specialised, e.g., on the architectural side, on planning, civic, factory and public baths, ecclesiastical, school, and domestic architecture, etc., and on the surveying side ordnance, arbitration, and legal surveying, reinforced concrete, steel construction, etc. On passing this examination the candidate should be elected a Fellow, and would be given a "specialists' certificate," for the branch in which he has passed. A special scale of fees should be fixed to be charged by Fellows when employed on the work for which they are specialists. And a higher fee should be chargeable for articulated pupils.

**Payment of Assistants.**—A minimum wage should be fixed (subject to alteration from time to time by the Council) for (a) qualified, (b) unqualified, and (c) tracers. The employment of "improvers" by unqualified members should be prohibited.

**Revision of Fees.**—The following action is suggested:—

(a) Minimum uniform fees on the cost of the contract should be abolished.

(b) A sliding scale should be fixed for minimum fees based on estimated cost, length of contract, type of building concerned.

(c) A sliding scale should be fixed for minimum fees to be charged by Fellows when doing work the cost of which is below a minimum figure (say £10,000). Such fees to be higher than for Associates.

(d) A sliding scale of minimum fees for specialists, which fees would be on the same basis as under (c), but at higher rates.

(e) A table of fees should be fixed for surveys of all descriptions (quantity surveying would be arranged for as under (b) and (c) based on the status of the member and the time taken in making the survey, schedules of the costs, dilapidations, etc.

(f) A sliding scale of fees should be fixed for assessorships (assessors should be elected by the Council, not by the President, from the Fellows), based on estimated cost of the work and number of competitors.

(g) A sliding scale of fees should be fixed for arbitrations, professional experts (for legal work) based on cost or time taken.

(h) A scale of minimum fees should be laid down to be charged by all qualified members, for speculative professional assistance rendered. For example, sketch plans and designs, cost estimates, etc.

**The Publication of Plans, Designs, etc.**—The publication of detailed drawings, plans, elevations, sections (excluding measured drawings of old

work) should cease. The central body might make it necessary for all members to agree to submit photographs and outline sketches only, unless a heavy fee is charged. Such fee to be based on the nature of the work in question; a sliding scale should be fixed for this fee.

Every facility should be given for the extensive exhibition of all competition, etc., schemes, for educational purposes, but admission to such exhibitions should be limited to professional members; members of the general public should only be admitted when accompanied by a professional member.

**7. Revision of Competition Procedure.**—No qualified members should be allowed to take part in a competition for work costing less than a minimum figure unless a minimum fee (to be stated in the conditions) is paid to all competitors submitting bona-fide designs. Such fee to be nominal, but sufficient to cover all expenses.

In competitions for work costing over the minimum figure (to be fixed by the central authority) the number of premiums offered should be in ratio to the number of bona-fide designs submitted (up to a fixed number), such ratio to be laid down in the regulations.

In conclusion, may I say that I trust that all members of the professions concerned will clearly understand that these suggestions are only made in order to stimulate, if possible, the calling of a conference. It is fully realised that they may in detail be impracticable in their present form, but it is hoped that all criticisms will be reserved for such a conference, when doubtless policies will be outlined by others who are far more experienced and able exponents of professional practice.

## A FURTHER NOTE ON SHAFTESBURY.

THE three timely articles on the sale of Shaftesbury, the ancient British Palladour, by Mr. C. H. B. Quennell and Mr. Ewart J. Culpin, deserve to be supplemented by an important reference that has been omitted from all the notices of the town occasioned by its recent publicity.

This is the town's place in the Wessex of Mr. Thomas Hardy, whom architects are proud to honour as a one-time member of their own profession.

In the Wessex novels Shaftesbury figures under its old, and local, name of Shaston. We find it in "Tess of the d'Urbervilles," but its real connection is with "Jude the Obscure," a large part of the story being laid there. The following description of the town and its remarkable site has more than likely been responsible for many a visit to the scene, if only to add to that select dozen or so possible "finest views" that summarise British topography for us:—

"The natural picturesqueness and singularity of the town still remain; but, strange to say, these qualities, which were noted by many writers in ages when scenic beauty is said to have been unappreciated, are passed over in this, and one of the queerest and quaintest spots in England stands virtually unvisited to-day. It has a unique position on the summit of an almost perpendicular scarp, rising on the north, south, and west sides of the borough out of the deep alluvial Vale of Blackmoor, the view from the Castle green over three counties of verdant pasture—South, Mid, and Nether Wessex—being as sudden a surprise to the unexpectant traveller's eye as the medicinal air is to his lungs. Impossible by a railway, it can best be reached on foot, next best by light vehicles; and it is hardly accessible to these but by a sort of isthmus on the north-east, that connects it with the high chalk



table-land on that side. Such is, and such was, the now world-forgotten Shaston or Palladour."

Another writer, Sir Bertram C. A. Windle, seems to miss the peculiar appeal of places like Shaftesbury when he says that the town "looks far better from a distance than it does on a near inspection," or refers to the "meanness of appearance and poverty of detail" which characterise its buildings. He has given us, in the "The Wessex of Thomas Hardy" (1902), a most interesting account of the place, qualified by some hard criticisms of its present state: "The houses seem almost without exception to have been designed by the worst exponents of the meanest type of architecture, so that even the attractions of a really excellent inn, which the town possesses in the Grosvenor Arms, are not sufficient to induce most persons to linger there any great length of time."

The Grosvenor Arms, probably well remembered by the members of some A.A. excursion, is one of those happy places that, originally devoted to the exacting traveller of coaching days, found itself in a strange new repute when the motorist re-discovered all the lost pleasures of the road. Its old-fashioned, liberal scale—the coffee-room is the largest in Wessex—was but half appreciated by the knapsack tourist or cyclist, but the motorist seemed to recognise at once all the latent prosperity and hospitality there. It is, indeed, the contrast in scale between the old-world atmosphere of the "Arms" and the hum-drum aimlessness of the streets, which serves to fix the town in one's memory, and mark the day or hours passed there as characteristically English in untowardness. The true English tourist is too tolerant to wish to emphasise any shortcomings in the actual architecture. Circumstances will be peculiarly unkind if the Grosvenor Arms does not succeed in stamping Shaftesbury with its distant prospect away to Glastonbury Tor in Somerset, as one of the best of towns for an outsider, with no real business there, to come upon.

M. J.

## SUGGESTED SITE FOR A LONDON WAR MEMORIAL.

IN the accompanying drawings Lieut. Stanley Hamp demonstrates the claims of Hyde Park and Kensington Gardens as a site for the Great War Memorial.

From what has appeared in the daily Press there seems to be some possibility that the influential committee formed to promote a war memorial scheme may decide on a position without having fully considered other more suitable sites. Lieut. Hamp's views are that the site should be one central in position, with sufficient space to ennobel a fine architectural conception embellished with the work of sculptor and painter, the whole forming a great national work of Art complete in itself, and expressing the great cause for which it has been erected.

Any scheme that has for its object the replanning of a particular district can never possess the essential characteristics, whatever be the various architectural groupings.

The site here suggested has great possibilities. Rising gradually from the Serpentine it is surrounded with magnificent trees, and the existing avenues all seem to lead up to the necessity of some great architectural feature.

The position is central, easily reached and within the area usually associated with all great national gatherings.

As can be seen from the plan, the site lends itself to suitable adaptations, and would bring into greater use a portion of the park only appreciated at present by the few.

The design is intended only to illustrate the possibilities of the site.

The Great War Memorial, wherever it is placed, should be the result of an open competition, in which all British architects who have served their country in its hour of peril should be given an opportunity to take part. It is only in that way that the nation





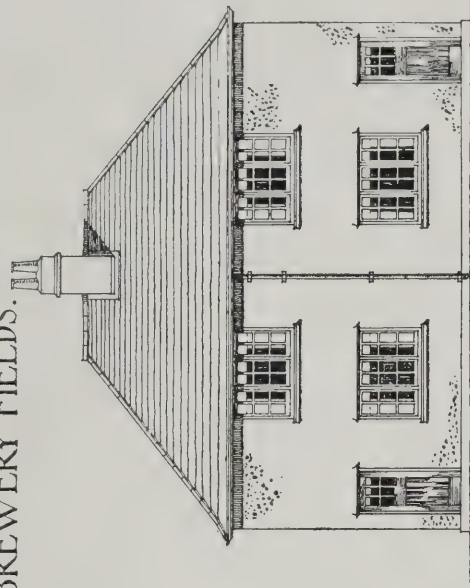


CURRENT ARCHITECTURE (SERIES VI.). X.—HOUSING SCHEME AT BREWERY FIELDS, DUDLEY: TYPES B AND D.  
BROOK KITCHIN, F.R.I.B.A., ARCHITECT TO THE LOCAL GOVERNMENT BOARD

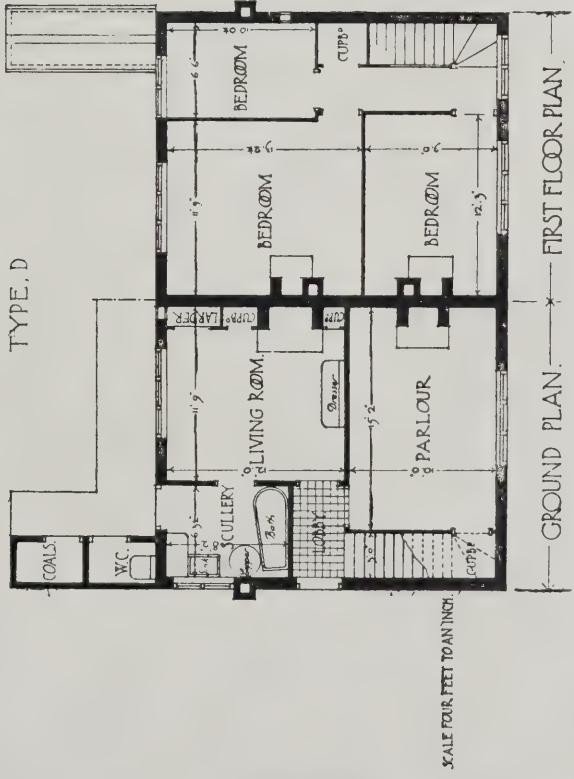




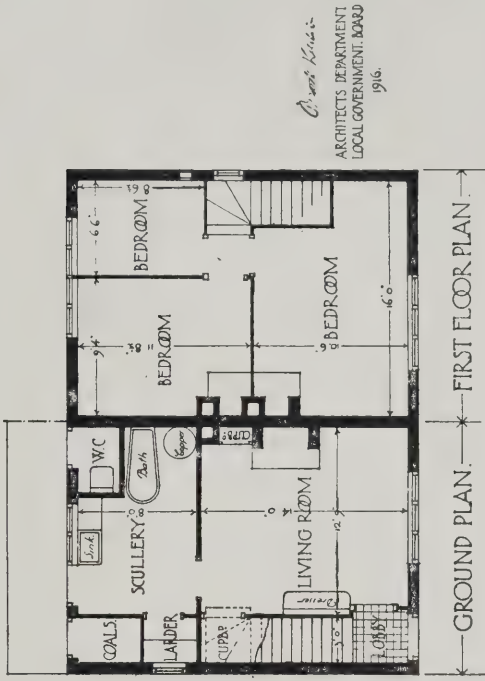
# COUNTY BOROUGH OF DUDLEY. HOUSING SCHEME AT BREWERY FIELDS.



TYPE, D



TYPE, B



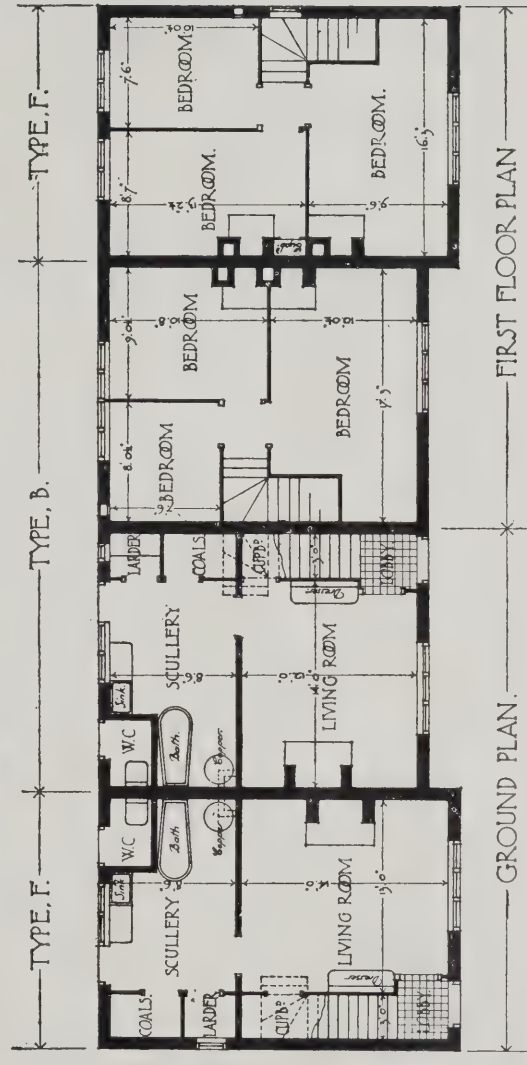
Planned by  
ARCHITECTS DEPARTMENT  
LOCAL GOVERNMENT BOARD  
1916.

CURRENT ARCHITECTURE (SERIES VI.). XI.—HOUSING SCHEME AT BREWERY FIELDS, DUDLEY: TYPES D AND B.  
BROOK KITCHIN, F.R.I.B.A., ARCHITECT TO THE LOCAL GOVERNMENT BOARD.





# COUNTY BOROUGH OF DUDLEY. HOUSING SCHEME AT BREWERY FIELDS.



SCALE FOUR FEET TO AN INCH.

*Brook Kitchen*  
ARCHITECTS DEPARTMENT.  
LOCAL GOVERNMENT BOARD.  
1916.













MONUMENTS. XLVII.—MONUMENT TO GENERAL CHANZY AT LE MANS  
CROISY, SCULPTOR.





n know that they are obtaining the best its people n produce.

It may be suggested that the Great War Memorial ould be partly utilitarian in character, in which se there can be no reason why the building should t be designed with that object and still form an chitectural monument.

## THE PLATES.

### *Housing Scheme at Dudley.*

THIS interesting scheme was carried out in 1916, under the direction of Mr. Brook Kitchin, F.R.I.B.A., architect to the Local Government Board. Descriptive details, with other drawings and photographic views, were given in last week's issue, to which readers should refer.

### *Monument to General Chanzy at Le Mans.*

Monuments to those who fell in the War of 1914-18 are to be found in every Department of France. The one to General Chanzy at Le Mans, illustrated on the double-page supplement, is typically French in its vivid and realistic portrayal of fighting men. In its way this vigorous example of the sculptor's art is almost as fine as the classic work of Rude on the Arc de Triomphe. The French are admittedly supreme in the art of monumental design—a term which is here used in its literal sense. The fine things in which the land of our ally abounds offer unlimited inspiration to the artist. Confronted with the task of designing immense numbers of war memorials, our own architects and sculptors could do better than study the fine achievements of France in a form of art that has never been properly

understood on this side of the Channel. Artistic intercourse with France should always be maintained. It was the loss of it after the war of 1870-71 that determined the artistic downfall of Germany, whose subsequent pursuit of materialism has but lately ended in overwhelming national disaster.

## CORRESPONDENCE.

### *The Maréchal de Villars Statue.*

To the Editors of THE ARCHITECTS' AND BUILDERS' JOURNAL.

SIRS,—I have just received your Journal for November 27 containing an illustration of the Maréchal de Villars statue at Denain. I am at present billeted near Denain, and it may interest you to know—if you are not already aware of it—that all that remains of the statue is the granite pedestal. I have not been definitely informed, but I assume that the bronze statue was removed by the Germans along with others from this district. The bronze medallion and wreaths from the pedestal are also missing.

W. J. FREEMAN, Lieut., B.E.F.

## EXHIBITION OF IRON AND BRASS UTENSILS.

### *The Victoria and Albert Museum.*

THE late Mr. G. Russell-Davies, one of those whose lives have been given for their country in the war, by a soldier's will bequeathed to the Victoria and Albert Museum his collection of articles of domestic use in iron and brass, from the county of Sussex. A selection from these has now been arranged and exhibited in the Museum (Octagon Court, Room No. 40), and forms an interesting representation of such relics of English life of the last two or three centuries. The principal group is one of appliances of the open hearth—wrought-iron fire-dogs and spit-dogs, with variously knobbed and shaped terminals, iron cranes for the cooking-pot, pot-hooks with adjustable racks, kettle-tilters (with rustic wit called "idlebacks"), spit-jacks driven by a weight, cradle-spits and prong-spits. All of these things made by the old Sussex blacksmiths show sense of form and fitness, excellence of workmanship, and a desire for decorative effect.

The cases arranged beside the larger pieces show wrought-iron candlesticks, rope-burners, toasting-forks, toasters, and other appliances; a group of door and window fittings—hinges, locks, latches, shutter-catches, and so forth; and another of snuffers, nut-crackers, and other steel implements. A fourth case is devoted to articles in brass and bronze, including a series of candlesticks and some good examples of the bell-metal skillet or saucepan.

The collection recalls a once flourishing local industry, and should be of particular interest to those who are concerned with the revival of technical and artistic industries in the villages and smaller towns of this country.

It will of course be recalled that Sussex smithery was in reality an offshoot of the iron-mining industry which once flourished in that delectable county. Novelists who have lately been much attracted to Sussex as affording, with its sea-lapped downs, a romantic setting for their stories, have not failed to make use of the disused iron-mines, whose old shafts are fraught with perilous possibilities. It may be usefully noted that there is a fine collection of fireplace accessories in the Brassey Museum at Hastings, in which the various utensils and appliances are invested with a full measure of Sussex charm.





## DR. ADDISON ON DEMOBILISATION AND RECONSTRUCTION.

Lord Leverhulme presided at a luncheon given last week at the Connaught Rooms by the Aldwych Club to Dr. Addison, Minister of Reconstruction.

Replying to the toast of his health, Dr. Addison said the functions of the Ministry of Reconstruction were not of an executive order. Their object had been to be much better prepared for the problems of peace than those of war. They were desirous of securing as rapidly as possible the restoration of the trades and industries of the country, and the re-employment of people in those trades and industries. They had prepared before the armistice a shipping programme, and he was glad to say that directions for the bringing in of raw materials, in order to speed up the restoration of employment, were given out on Monday morning, November 11. In respect of many materials the prospect was good as far as quantity was concerned. The next essential to the rapid restoration of industries was the process of demobilisation of our forces. They proposed, in the main, to demobilise in accordance with industrial requirements rather than with military convenience. Therefore, they had endeavoured to collect from the different industries a statement of the men required at once.

### *Interrupted Professional Training.*

They hoped to be through the initial stages of congestion in the course of about a week from now. They proposed to short-circuit demobilisation with respect to any man who had a job waiting for him. They proposed, in the first place, to facilitate communications between the employer and the workman. Where an employer had a job and wanted a man, and the man was willing to go, that was felt to be sufficient authority to secure that he was placed on the rota for demobilisation. In the next place, there was another class of men they were anxious to get entered upon the demobilisation rota, and that was the class whose training for various civil or professional vocations had been interrupted, and who, if they were demobilised, would be able to resume their training without delay. In these cases, also, they were short-circuiting arrangements on the assurance that the men could resume their training, and that the training was there for them. Similarly, in the case of men who were of the one-man-business type, they were anxious to give them the same facilities for getting rapidly demobilised. It was quite clear to his Department that by getting these classes of men on the demobilisation register they would be able to account for between 65 and 70 per cent. of the whole of the Army.

### *Permits and Licences to Go.*

There was another field of activity, and that was to sweep away the numerous permits and licences which had sprung up in so many different ways during the war. As regards the stocks controlled by the Food Controller, they had been considering what they could do to bring about some easement of the situation. They had come to the conclusion that, with respect to the priority certificates issued by the Ministry of Munitions, a clean sweep should be made, with one exception, of the whole lot. Another problem was whether they could not do something, while safeguarding essential interests, to simplify

the system of permits, which caused traders to go to a number of different departments. For this purpose the four different priority departments now in existence would be amalgamated, and trades would in future have to apply to one centre only. Their policy was to facilitate the bringing back of freedom into our industries and our export trade, and the sooner they could do away with limitations and restrictions the more rapidly would they restore our manufactories and our industries. It would be necessary, however, to have some measure of control for some time to come.

### *Placing Contracts.*

Another branch of their activities was to secure the earlier placing of orders. There seemed to be a considerable measure of hesitation in placing contracts, and getting on with work in some industries, because it was felt there might be a fall in prices later on. If this feeling continued to operate it would, he was sure, lead to widespread unemployment and a serious paralysis of industry. They were trying to cover this risk, and he hoped an arrangement would be arrived at whereby it might be averted. He was satisfied that the temper both of Capital and Labour was such—so far as responsible leaders were concerned—as would lead not only to big organisations, but to big production. Whilst he recognised the risks that attached to comprehensive trade organisations, it seemed to him that only by comprehensive trade agreements on progressive lines, making for big production, should we be able to secure that our industries in the future are placed on a basis that will enable them to make good the losses of the war and restore trade and industry. In no fewer than sixty industries there were at the present moment trade bodies that were tackling these problems in a wide-minded spirit.

We must get away, he said in conclusion, from dependence upon the Central Authority as quickly as we could, and self-help and the removal of restrictions must be our policy in the immediate future.

## SCOTTISH WOMEN'S VIEWS ON HOUSING.

A committee of women appointed by the Secretary for Scotland to visit houses erected in Scotland by the Local Government Board and the houses provided by the Scottish National Housing Company at Rosyth, with a view to offering criticisms and suggestions, recently presented its report.

Respecting the Rosyth houses, the committee (known as the Women's House-Planning Committee) noted as outstanding defects; A general restriction of floor space, inadequate working, washing, and storage facilities; bathroom small, and its position (opening off scullery) objectionable; bath undersized; distempered walls not washable; absence of lobby; steepness and narrowness of stairs; bedroom badly coomceiled, and fireplace in smaller rooms only of use as ventilating shafts; in intermediate houses access to back door and scullery only through living-room.

### *Universal Desire for Parlours.*

In all the schemes visited very few parlours were provided, the result being that in many cases a bedroom was sacrificed for this purpose. The committee observe that the desire for a parlour is universal, and they consider that in future schemes the provision of a parlour, in

addition to the living-room, should be recognised as essential.

In the course of some observations on lay-out and type of house, the committee recommends rather more originality, as it believes that a piece of rough ground, with trees, hedges, and boulders would make a much more interesting playground than a field levelled and artificially prepared.

Cottages should be built mainly in blocks of two, as from extensive inquiries made amongst the working class it finds there is a unanimous demand for this type. The single or flatted type may be preferred where there are little children needing constant care and supervision, and they agree that a certain proportion of the houses should be of this design. The two-storey type is much favoured where the family is grown up.

### *Provision for Large Families.*

The committee noted with regret the failure to provide in any of the schemes sufficient accommodation for a large family—say, five to eight children. The houses visited were excellently kept and well furnished, but the occupants in almost every case were either newly married couples or households where there were only one or two children. For them the houses seemed adequate, but in other cases where the household was larger overcrowding took place, and it was obvious that both the living-room and scullery were much too cramped to allow of the daily work for such a family being expeditiously and efficiently carried out. In every scheme provision of larger houses should be made for the larger families.

### *Sculleries and Washhouses.*

The scullery, it is pointed out, is really the workshop of the house, and the success of its design is the ease with which the housewife can overtake her work. Not to be altogether sunless, it should face east, and should lead directly out of the living-room, or be accessible immediately outside the door of that apartment. The washtub and sink, planned to give the maximum of elbow room, should be placed in the window recess of the scullery, and not, as in some houses, next the wall, where space is confined. The top of the wash-tub should be furnished with a drip-board, and a second drip-board or shelf should be placed alongside, and provision made for fastening the wringer.

### *Ventilation Difficulties.*

The committee was impressed with the "airless homes" in which many people live. Many housewives in town and industrial areas will not open their windows because of the smoke and dirt from factories and the dust from unwatered or ill-kept streets. "Draught" is a common complaint, with, the committee agrees, good reason. Given an open window, and the inner door exactly opposite the outer, those sitting by the fire are in a double-air current—from window to fireplace and from door to fireplace. It is recognised, too, that from habit many housewives work and sleep in the poisoned atmosphere of unventilated homes. Because of the vital need of clean air, especially for little children, they urge the provision of a simple device—that one window in every room, including bathroom and scullery, be constructed so that at the meeting of the rails the lower sash projects 4 in. beyond the upper sash, thereby enabling a gentle continuous upward current of air to percolate between the two sashes, a safety fastener being provided.



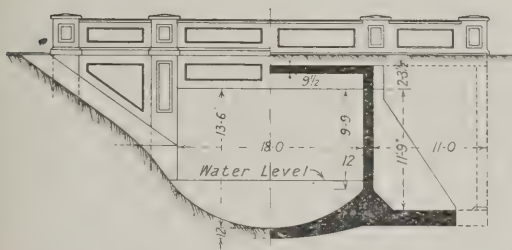
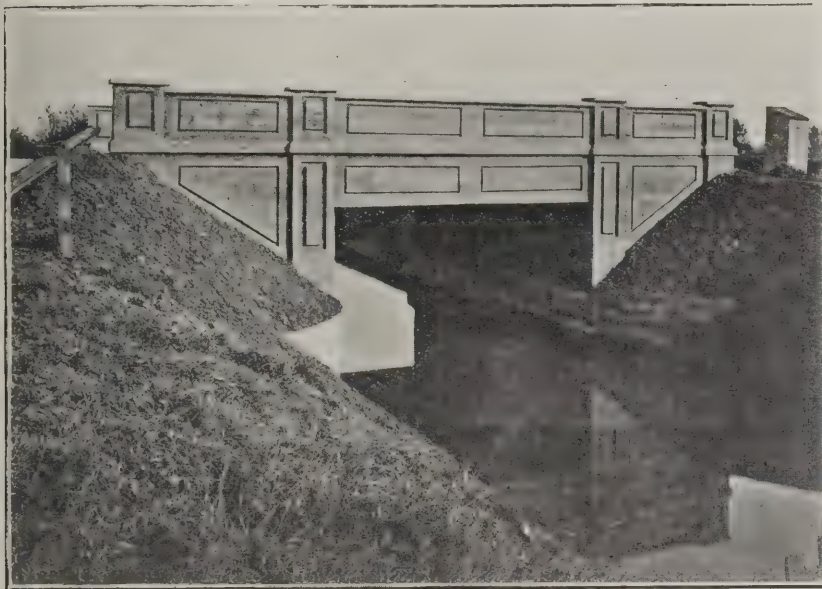
## HAMMER AND PINCERS BRIDGE, WYBERTON, NEAR BOSTON, Lincs.

This bridge, carrying a road over a fen drain, replaces an old narrow brick-arch structure which was found unsafe for the heavy traffic of the present time: modern agricultural machinery is employed in the district, including very heavy ploughing engines, and the new bridge has to sustain the weight of such vehicles.

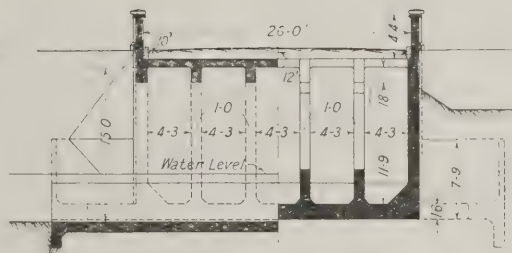
General details of the structure are indicated in the line illustration, and it will be seen that there is provided a roadway 26 ft. wide between the parapet walls. The roadway is carried on expanded steel-concrete decking and concrete beams reinforced with round steel bars. The ends of the beams rest on cellular abutments, the foundation platforms and walls of which are reinforced with diamond mesh expanded steel and the counterforts with round steel bars. Upon excavating and examination of the bed of the drain it was considered advisable to add the invert shown—it is reinforced with rib mesh expanded steel. The panelled parapet walls, shown in the detail, are reinforced with diamond mesh expanded steel. The reproductions from two photographs illustrate clearly the appearance of the finished structure.

The work was executed for the Holland County Council by Messrs. Tidnams, Ltd., concrete specialists, Wisbech; to the general design and under the supervision of Mr. Frederick Parker, F.S.A., M.C.I., temporary county architect. The Expanded Metal Company, Ltd., of London and West Hartlepool, designed and supplied the whole of the reinforcement.

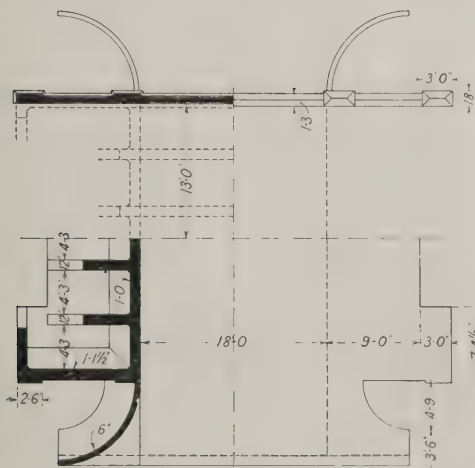
Another bridge, somewhat similar in detail, is at present under construction in the vicinity for the same authorities, and particulars will be published on its completion.



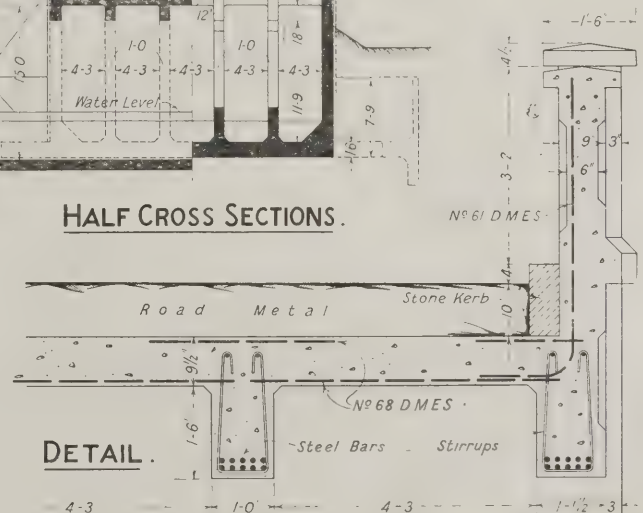
HALF ELEVATION. HALF SECTION.



HALF CROSS SECTIONS.



PLAN.



## HAMMER & PINCERS BRIDGE, WYBERTON, Lincs.

FRED<sup>W</sup> PARKER ESQ., Temporary County Architect. HOLLAND C.C. BOSTON.

REINFORCED CONCRETE THROUGHOUT



## THE WEEK'S NEWS FROM FAR AND NEAR.

### *Abattoir, Glasgow.*

New premises and reconstruction work are to be carried out at the City Abattoir at an estimated outlay of £5,500. The City Superintendent of Works has prepared plans.

### *Concert Hall, Dunfermline.*

A commencement will be made on an early date with the erection of a concert hall in Dunfermline, Fife. The Carnegie Trustees are undertaking this work and have selected a site on land they own.

### *Cranes Revocation Order.*

The Minister of Munitions has issued an Order dated December 6 revoking the Cranes Order, 1916, which provided that no person might sell or supply any steam, electric, hydraulic, or hand-driven lathe without a permit.

### *Taunton School.*

Taunton school authorities propose to raise a sum of at least £6,000, which will be expended, as soon as building again becomes possible, in the erection of a block of buildings, comprising new chemical and physical laboratories, an art school, and wood and metal workshops.

### *Town Planning in Lanarkshire.*

A town planning scheme has been approved by the Local Government Board, and is to be proceeded with. It concerns areas at Cambuslang, Newton, and Carmyle. Mr. W. E. Whyte, Clerk to the District Committee of Middle Ward of Lanarkshire, has the plans prepared.

### *Housing Scheme, Port Edgar.*

A scheme for the erection of 1,300 dwelling houses at Port Edgar, in the Queensferry district of the Firth of Forth, is under contemplation by the Admiralty. The Local Government Board has asked the Linlithgow District Committee to provide water supply, drainage, lighting, and roads. The District Committee will supervise plans with a view to having the new township laid out on the garden city lines.

### *Threatened Georgian Buildings.*

Among the buildings marked for demolition on the Westminster improvement area are twenty-five houses in North Street and Smith Square, which form an almost unique group of property of the Early Georgian period. The London County Council Improvements Committee are of opinion that the houses should be preserved as an interesting link with the past, and accordingly recommend that the sites should be withdrawn from the list of those available for letting.

### *United Kingdom Trade Catalogues, etc., Wanted for Gothenburg.*

H.M. Consul-General at Gothenburg (Sweden) is taking steps to form a collection of British commercial reference books, trade catalogues, etc. He is providing for the exhibition of these books at the Consulate-General, and is inserting a notice in the local Press informing the public that these books are available for reference. He would welcome the assistance of United Kingdom manufacturers and merchants in making the collection as complete as possible, and is therefore anxious to be supplied with suitable British trade publications, reference books and catalogues. He states that considerable commercial activity may be expected

at Gothenburg after the conclusion of peace, and is of the opinion that such a collection of commercial information will be of great service to Swedish importers, and consequently to manufacturers and others in the United Kingdom.

### *Architectural Association of Ireland.*

At a meeting of the above society at South Frederick Lane an interesting illustrated lecture on "Columns" was delivered by Mr. Oswald Reeves. He described the development of the column by the ancient Egyptians, and said it was regrettable that an intelligent interpretation of Egyptian art had yet to be undertaken. Mr. M. J. Burke (president), who was in the chair, announced that, to signalise their relief from the nightmare of war, the committee had decided to hold a dinner and smoking concert.

### *The Memorial Service to Architects.*

The memorial service for members of the architectural profession who have fallen in the war was held on December 4 in St. George's, Hanover Square. Among those who attended were Major Maurice Webb, Sir Ernest George, Sir Edwin Lutyens, Sir Henry Tanner, and many members of the Royal Institute of British Architects, including the President (Mr. Henry T. Hare). Prebendary Thicknesse, who conducted the service, delivered a short address. At the close of the service the "Last Post" was sounded by Grenadier Guards.

### *Revocation of the Shellac Order.*

In reference to the Shellac Control Order, 1918, made by the Minister of Munitions, and dated March 12, 1918, the Minister of Munitions has ordered as follows: (1) As from the date hereof the said Order is hereby revoked. (2) Such revocation shall not affect the previous operation of the said Order or the validity of any action taken thereunder or the liability to any penalty or punishment in respect of any contravention or failure to comply with the said Order prior to such revocation, or any proceeding or remedy in respect of such penalty or punishment. (3) This Order may be cited as the Shellac Revocation Order, 1918.

### *Assistance to Trade Representatives Requiring Passages.*

It is understood that representatives of British firms are encountering difficulties in obtaining passages to the Dominions, and in such cases where it can be shown to be of paramount importance that a representative should sail at an early date, the Department of Overseas Trade is prepared to consider applications for assistance in facilitating matters. Such applications should give full particulars, including the nationality of the firm and its representative, the date after which the latter is prepared to sail, the class of passage, and whether a passport has been applied for or granted.

### *Edinburgh Town Planning Scheme.*

Edinburgh has a very important town planning scheme in hand. The city architect has prepared plans and particulars and the Local Government Board for Scotland has been advised. A commencement is to be made on land owned by the corporation in the Gorgie district of Edinburgh. Enquiries are being made as to the acquisition of ground in other districts of the city—Grantont, Portobello Road, and Craigleith. Should the pro-

prietors of these sites and the corporation agree upon terms, further plans will be got in readiness for an extended housing scheme. The outlay is not estimated, but the total expenditure may amount to £320,000.

### *Relaxation of Priority for Government Work.*

The Minister of Munitions has given notice that all uncompleted contracts for the Admiralty, War Office, and Ministry of Munitions which have been placed in classes A or B, including the various grades thereof P 1, P 2, P 3, P 4, P 5, P 6, under the Order as to Priority of March 8, 1917, need no longer be given the priority attaching to them under the Order, except in cases where the contractor is notified in writing or by official notice in the Press that a particular classification is still required to be given to any particular contract. Contractors must notify the ordering Departments of the Admiralty, War Office, or Ministry of Munitions responsible for the contracts in question, of any modification of the original date of completion resulting from this relaxation of the Order as to Priority.

### *First Aid in Factories.*

The Home Office Order dated November 8, requiring the provision of first aid and ambulance arrangements for the treatment of accidents at all sawmills and factories in which articles of wood are manufactured employing twenty-five or more persons, comes into force on January 1. The Order is in the same terms as the Draft Order issued last July, except that the Chief Inspector is now given power, if an ambulance room is provided at the factory and such arrangements are made as to ensure the immediate treatment there of all injuries occurring at the factory, to exempt the factory, by certificate in writing, from the requirements as to the provision of "First Aid" boxes; and that a provision has now been inserted that in the case of works employing 500 or more persons which are required to provide an ambulance room and ambulance carriage, in reckoning the number of persons employed any department of the works in which no machinery is used may be excluded. This modification has been allowed in view of the special circumstances in the furniture and cabinet making trade.

### *The Shortage of Raw Materials.*

Writing on this subject in the "Star," Mr. Harry Dubery, Labour Adviser to the National Alliance of Employers and Employed, admits that the trade which will absorb the greatest number of people ultimately, but which is most handicapped for raw materials, is the building trade. Houses are wanted everywhere. The brickyards are known—their output can be estimated to the last brick. Cement and other materials, too, can easily be obtained—but timber, the one essential commodity for which there is no real substitute, is almost entirely lacking. True, the Government has decided to go on cutting down trees in this country, but the trees are not yet felled, and, even were they felled immediately, no one would dream of building with the green wood resulting from this winter's felling. It has been stated that the hundreds of thousands of temporary wooden buildings and huts in this country have been earmarked for Belgium as temporary buildings for the devastated areas, but, probably, owing to



he German débâcle, only a proportion of them will now be required in Belgium. It had better immediately be decided how many can be used for home purposes, and the work of demolition and re-using these materials (which are to a large extent now seasoned) should be proceeded with at once.

#### *Civic Adviser to the City of Jerusalem.*

Mr. C. R. Ashbee, F.R.I.B.A., has been appointed Civic Adviser to the City of Jerusalem. He returns to Palestine in January to take up his duties.

#### *Resignation of Sir Edward Poynter.*

At a general assembly of academicians recently held it was announced that Sir Edward John Poynter, Bart., G.C.V.O., had resigned the Presidentship of the Royal Academy, and that the resignation had been accepted with regret.

#### *Business Appointments.*

The directors of Messrs. George M. Callender and Co., Ltd. (proprietors of Callender's pure bitumen damp-course), have co-opted Mr. E. J. Farrell to the board in recognition of his twenty-five years' service with the company. Mr. Farrell has held the position of secretary since the incorporation of the company, and that of manager for the past eight years. Mr. E. J. Codd, who for fourteen years has been agency controller, has been appointed secretary of the company.

#### *Paint, Colour, and Varnish Prices.*

At the annual meeting of the National Federation of Associated Paint, Colour, and Varnish Manufacturers of the United Kingdom, held on November 22, the chairman reported to the Council that, as a result of interviews which various committees have had with controllers of raw materials, the Council had come to the conclusion that there will be no reduction in the prices of their manufactures for the next six months. Since this statement is made some of the raw materials have been advanced in price, as in the case of white lead.

#### *Housing the Disabled.*

At a public meeting held at Hackney in support of the local Disabled Soldiers' Fundation, formed to provide one hundred bungalows for disabled service men and their families, it was announced that a site of eight acres and a half had been secured in the Walthamstow district. This had been offered to the executive council of Sir Courtenay Warner for a practically nominal amount. It is the highest site in the neighbourhood and overlooks the North London Reservoir and Epping Forest. Each bungalow will be provided with a large garden, and in addition to the homes there will be a central meeting hall with medicinal baths. The total cost, estimated at £100,000, is to be defrayed by the manufacturers and residents of Hackney.

#### *Mr. Mawson on the Replanning of Athens.*

Sir T. G. Jackson, Bart., R.A., took the chair at the Anglo-Hellenic League's public lecture at King's College, Strand, on Friday, when Mr. Thomas H. Mawson, who has been appointed city-planning expert to the Greek Government, lectured on his proposals for the replanning and reconstruction of Athens. Mr. Mawson did not deal with Athenian archaeology or history. His subject was the future of Athens, and he dealt with it from the town-

planner's point of view. Slides were shown of designs for the new railway-stations, Houses of Parliament, and other important centres required by the rapid growth of the Greek capital. Plans were also exhibited of houses for the artisan and working classes of Athens.

#### *Brisk Business Ahead.*

Pottery manufacturers, according to the Hanley correspondent of "The Times," are vigorously organising themselves for the period of trade development which the declaration of peace should bring. They are already in consultation with the authorities on the question of demobilisation. They realise that miners should first be released, for a better coal supply is the most pressing and immediate need. Then, they are asking for the return of "pivot" men, and the more important operatives. There is no fear of unemployment when the potters return, and manufacturers are confident of being able to absorb all the labour available. Their books are loaded with orders, and there is a famine of pottery throughout the world. The demand from overseas markets is pressing, and the home trade is likely to boom for many months.

### TIMBER CONTROL: SOME RELAXATIONS.

In view of altered circumstances, brought about by the armistice, the Controller of Timber Supplies has found it possible to dispense entirely with permits for the purchase of home-grown timber. Although permits for imported softwood are still necessary for large amounts, the Controller has increased the value of imported softwood that can be bought without a permit by one purchaser within a month from £20 to £100. Permits are no longer required for the purchase of imported hardwood and plywood in this country. These concessions will facilitate work in the reconstruction period. Maximum prices for both imported and home-grown timber are, of course, retained, but by a further Order the maximum prices allowable for home-grown sleepers are raised and a distinction drawn between sleepers of oak, larch, and other woods. The Pitwood Order, 1918, is not affected by these changes.

As stated by Sir Albert Stanley in reply to a question in the House of Commons on November 18, 1918, it is not yet possible to relax the regulations which prohibit firms in this country from dealing in timber abroad without a permit. The Controller has, however, invited the holders of wood goods overlying abroad to send him full particulars.

### THE SOCIETY OF ARCHITECTS AND PROFESSIONAL DEFENCE.

The Council of the Society of Architects has recently adopted a very comprehensive scheme of reconstruction calculated greatly to increase the resources, scope, and utility of the society, render it more extensively serviceable to its members, and facilitate its work in connection with the various progressive measures of reform which it has in hand.

Some of the proposals will develop with the growth of the society, but the chief and

most important one, which is connected with professional defence, is now in operation. The Council has established, with the guidance and approval of its legal advisers, regulations enabling members in certain cases to apply to the society for advice on points of law arising out of their professional practice and for assistance in helping them to defend cases where questions of professional principle are involved.

This scheme is an extension of the scope and power of the Board of Professional Defence set up by the Council some years ago, in connection with which the nucleus of a defence fund is already in hand.

It is not intended that these facilities for advice and defence in professional matters shall be available for architects' clients. These will continue to seek their own legal advice as heretofore. The society's scheme is intended solely for the assistance and protection of architects as such, and its scope is restricted to architects who, being members of the society, may have occasion to apply to their society to assist them in protecting their own professional character, status, and interests, and in promoting honourable practice.

This extension and development of the society's activities will, it is thought, be of considerable general interest, and the Council cordially invites any architect who desires to know more about the society and its work to communicate with the secretary at the offices of the society, 28, Bedford Square, W.C.1.

### COMING EVENTS.

#### THURSDAY, DECEMBER 19.

The Paint and Varnish Society.—Mr. Archibald Vickers, on "The Varnish and Prepared Paint Trade and its Future: Some Observations and Suggestions." Meeting to be held at St. Bride's Institute, Bride Lane, Ludgate Circus, E.C., at 7.30 p.m. prompt.

The Illuminating Engineering Society.—A meeting of the above society will be held at the House of the Royal Society of Arts (John Street, Adelphi, London), at 8 p.m. on above date, when a summary of progress in photometry with special reference to war problems (tests of parachute lights and flares, self-luminous, radioactive paint, integrating photometers, etc.) will be presented, the discussion to be opened by the President.

Concrete Institute.—Mr. C. F. A. Voysey on "Æsthetic Design in Reinforced Concrete Buildings," at 5.30 p.m.

Edinburgh Architectural Association.—Mr. Walter Oliphant, S.S.C., on "Some French Churches" (illustrated by lantern slides), at 7.30 p.m., Mr. T. P. Marwick, A.R.I.B.A., President, in the chair.

#### FRIDAY, DECEMBER 20.

R.I.B.A.—Mr. L. B. Beale, Timber Commissioner for the Government of British Columbia, on "British Columbia Woods Available for the Work of Reconstruction," at 4 p.m. This lecture will be given in connection with the exhibition of the standard grades and sizes of American and British Columbia woods which is now being held in the Galleries of the Royal Institute.



## SPECIFICATIONS FOR PAINTERS' AND DECORATORS' WORK.

BY ARTHUR SEYMOUR JENNINGS, F.I.B.D.

*(Concluded from page 184, No. 1241.)*

74.—Painting Iron Fences.—Prepare as in paragraph 66 and give two coats of brand black varnish; (or) touch up bare spots with red lead and give two coats of lamp black, ground in oil, to which a little Prussian blue and mixing varnish have been added.

*Staining.*

75.—Exterior Woodwork (New).—Such parts of the outside woodwork as are marked on plans are to receive one coat of permanent stain of colour to be selected. The thinners are to consist of two parts of benzol to three parts of raw linseed oil. The nail holes and imperfections are then to be made good with putty, coloured to match the stain. A second coat of stain thinned with nine parts raw linseed oil and one of turpentine is then to be given. For best work give a third coat similar to the second coat.

Note.—If a deep colour is desired two or three coats of the stain similar to the first must be given in order to preserve transparency and show the grain of the wood. One thick coat would not answer as it would obliterate the grain. In every case care is to be taken to obtain a uniform colour.

76.—Alternative.—Apply two coats of — stain and one coat of varnish if a glossy finish is desired.

Note.—There are on the market several excellent stains made in various acceptable colours, of which "Solignum" is a type. These may be used either for inside or outside work, and possess the advantages of being cheap, durable, and effective in preserving the wood.

77.—Staining Interior.—Such work as is to be stained is to be treated as follows: Two coats of — scumble stain thinned down with sufficient turpentine to produce an approved colour are to be given, and each coat is to be lightly rubbed down with fine glass paper and is then to be varnished.

Note.—There are three general systems of executing stained work, viz., to use (a) water stains, (b) oil stains, (c) spirit and varnish stains. The first of these may be used when a dull or wax polished finish is required; spirit varnishes are different to apply and are far from durable. Oil-staining may be considered therefore by far the most suitable for general work. The various "scumble stains" on the market, of which "Matsine" is an example, give excellent results and require only to be thinned down with turpentine. They are made from transparent permanent colours and may be varnished if desired. The method of staining referred to in paragraphs 75 and 76 may also be used for interior work.

78.—Re-staining. Touch up all old stained work to produce as nearly as possible a uniform colour like the original. Give a coat of raw linseed oil, to which is added 10 per cent. turpentine. Make good imperfections with coloured putty, and then give a second coat of oil and turps in same proportion.

79.—Floors (Soft Wood).—The floors (or margins) of — rooms are to be stained with oil stain thinned with turpentine, followed by a coat of gold size and turpentine (1 part of gold size to 30 of turps) to stop further suction. A coat of

special hard floor varnish is then to be given. This is to be rubbed down with powdered pumice stone and water (or) if glossy finish is required is to receive a coat of — floor varnish.

80.—Alternative.—Follow the above directions, but after rubbing down the varnish polish with — brand of wax. (Note.—Pure beeswax dissolved in turpentine is usually employed for wax-polishing, but it is by no means the best. There are several proprietary brands of polishing waxes which contain a proportion of carnauba, a very hard wax which yields a much more permanent polish.)

81.—Hardwood Finishing.—All hardwood, including parquet floors, are to be treated as follows: The work is to be first made perfectly smooth. A coat of paste wood filler thinned with turpentine is then to be given to stop suction. This is to be applied with a short stiff brush and is to be well rubbed in. After the expiration of six hours all the superfluous filler is to be rubbed off with sacking, care being taken to remove it also from quirks, corners, and mouldings by means of sharpened wood skewers. Then rub quite smooth with fine glass paper and apply a coat of — rubbing varnish. After twenty-four hours rub down this coat with fine powdered pumice stone and water. Wash thoroughly, and when dry apply a second coat, which is to be dealt with in the same manner as the first. Then give a finishing coat of — copal varnish. Note.—For ordinary glossy work two coats will suffice, but three or more may be used to obtain a superior finish.

82.—Alternative.—Proceed as above described, but rub down the finishing coat of varnish and then polish with sweet oil and rottenstone until a uniform dull polish is obtained.

Note.—This method is very much better than wax-polishing, as it gives a surface which will last a considerable time without needing constant repolishing, as the wax process does.

83.—Front Doors (Special Finish).—Prepare, pumice and paint with three coats of paint as before described, of approved colour, the last coat to be finished flat. Apply a coat of — rubbing varnish, rub down with powdered pumice and water, clean off and give a finishing coat of — front-door varnish.

84.—Alternative.—Proceed as in the foregoing paragraph, but instead of varnish apply a coat of — outside enamel of approved colour, rub down as before, and give a finishing coat of enamel.

Note.—A very beautiful finish can be obtained by following the above process and by rubbing down the panels of the last coat of enamel to a flat finish, leaving the stiles, rails, and mouldings glossy. When this effect is desired flat varnish should not be used, as the glossy enamel rubbed to a flat finish is much more durable on outside work.

85.—Glazing Finish on Front Doors.—The front door is to receive four coats of paint, the last being made of white lead and vermilion finished flat. When dry rub down carefully and apply a coat of permanent crimson madder lake mixed with turpentine (no oil) and a few drops of gold size. Rub down lightly and apply a

coat of rubbing varnish, which is to be rubbed down with pumice stone and water and to be followed by a finishing coat of — front-door varnish.

Note.—A striking colour note in exterior decoration can often be given by finishing the front door in very brilliant colours. In sombre town houses the feature is particularly desirable. Although a bright red (carnation) finish has been specified in the above paragraph produced by glazing with madder lake over a base of vermilion and white, there are many very beautiful effects which may be produced by the same process varying the colours as follows:

Coral.—White lead, vermilion, and lemon chrome glazed with crimson lake.

Terra-cotta.—White lead and venetian red glazed with burnt sienna.

Cherry Brown.—Burnt sienna and raw sienna glazed with raw umber.

Rich Chocolate.—Burnt sienna, vermilion, and ultramarine, glazed with crimson lake.

Turquoise.—Zinc white and cobalt glazed with emerald green.

Apple Green.—White lead and Prussian blue glazed with middle cadmium yellow.

Gobelin Blue.—White lead, Prussian blue, and a little bone black glazed with emerald green.

Peacock Blue.—Zinc oxide and Prussian blue glazed with cobalt.

Begonia.—White lead, Prussian blue, and vermillionette, glazed with brown madder lake.

Wedgwood Grey.—Zinc oxide and Prussian blue, glazed with terre-verte.

86.—Cheap Work (Inside).—The woodwork designated is to be rubbed, prepared without knotting, and two coats of — washable water paint of approved colour are to be given, followed by a coat of — varnish. Each coat of water paint is to be rubbed down.

Note.—Although the above method is very rarely used, it will be found in practice to give a remarkably good result at a very moderate cost provided always—and this is the essence of success—that the varnish used is of first-class quality. Knotting will not be required, as the water paint will prevent the exudation of rosin from the knots—in fact, washable water paint is in itself a very good "knotting."

87.—Paperhanging.—Strip off all old paperhangings, make good to plaster wherever required and allow a sum of £—— to cover (a) repairs to plaster, walls, and ceilings, (b) the hanging of lining papers when it is decided that such work is necessary. Such sum is to be allowed on the price of the contract in proportion to the amount of such work actually done. Note.—The extent of repairs to the plaster and the necessity for lining paper cannot be determined until the paper has been removed.

88.—Price of Papers.—The price of paperhangings is to be as follows (here give prices for the several rooms, including all borders, friezes, etc.). These prices are to be those marked in pattern books. All paperhangings are to be selected by the architect, and the contractor is to allow for the time involved in tacking up two widths of two different pat-



runs in each of the principal rooms, so at the final selection can be made in cm.

89. Hanging Papers, etc.—All papers are to be hung with butt joints. The borders of dadoes up staircase are to be ribbed to follow the curve of skirting. The mitreing of all borders in panelled work are to be carefully done, so as to avoid mutilation of the pattern. The hanging of all friezes is to be carefully studied, so as to ensure the pattern being treated equally on each wall.

90. Varnished Papers — All papers which are to be varnished are to receive two coats of size. The varnish is to be copal. No crystal paper varnish must be used nor papers be used which are easily varnished.

Note.—A coat of size followed by a coat of water glass (silicate of soda) gives a better result than two coats of size, as it allows up the varnish to greater advantage. Crystal paper varnish is a very cheap variety and does not last long.

91. Panelled Work.—The walls of rooms are to be panelled with paper in accordance with the drawings, the borders and fillings to be selected. The "surrounds" — inches wide are to have three coats of oil paint and one of flat enamel or selected colours (or) two coats of paint and one of — washable water paint.

92. Relief Materials.—Cordelova, Anaplasta, Tynecastle, or Lincrusta (state which) are to be used on the walls and (or) ceilings of — rooms. (Give numbers of patterns selected.) Relief papers of which are to be filled at back with plaster of Paris. The pastes used in all cases to be those recommended by the manufacturers.

93. Bronzing Relief Materials.—The colour of — is to be hung in relief material and is to be sized, coloured with strong brownish colour, and then bronzed with best quality bronze — colour.

94. Alternative—Or it is to be finished with old ivory effect obtained by painting in grey-white. The whole surface is to have a coat of glazing colour obtained by mixing Vandyke brown, raw sienna, and burnt umber mixed in water. When nearly dry, rub off the reliefs with a damp cloth. Finish by sizing and apply a coat of pale brownish.

95. Brickwork.—The brickwork is to be raked down the joints, raked out, and have two coats of — washable water paint (outside quality) of approved colour

(or) a coat of a solution of copper is mixed with yellow ochre. Note.—The repointing will be specified under the head of "Bricklayer," who may also apply the last-named solution.

96. Alternative.—The whole of the old brickwork is to be painted flat as follows: The joints are to be raked out and two coats of paint, made of four parts of Venetian red and of white lead mixed with 80 per cent. of raw linseed oil and 20 per cent. of turpentine. After the first coat of paint is applied the joints are to be filled up to a level surface with a stopping made of white lead ground in oil and ordinary putty in equal proportions. A finishing coat is to be given of — brick paint which dries flat. The joints of the brickwork, both horizontal and vertical, are then to be neatly painted in to represent Flemish bond in black (or white) lines.

Note.—The above method of painting brickwork is much used in America and gives a very neat and satisfactory appearance. It is, however, not suitable for ordinary London stocks or other very absorbent bricks.

## TRADE AND CRAFT.

### *Localising Outbreaks of Fire.*

It will never be possible entirely to eliminate risk of accidental fire, but an outbreak can be prevented from spreading if the building be divided into sections by party walls, having openings protected by fire-proof doors. Much the same principle, of course, is employed on ships, the provision of watertight bulkheads minimising the risk of sinking after collision, torpedo attack, or other disaster.

For many years past fire-prevention methods have been largely directed towards the isolation of an outbreak; and one of the chief means towards this end is obviously the provision of effective fire-resisting doors, which, to adequately fulfil their purpose must be not only competent as regards their substance, but also devised ingeniously with regard to their mechanism of movement, etc.

A striking instance of the value of fire doors was afforded by an outbreak that occurred on October 15 at a large warehouse adjoining Bolton Station, on the Lancashire and Yorkshire Railway, used for storing cotton. This building consists

of four storeys, comprising a loading platform on the ground floor and three upper storeys. The latter are divided into three sections by two party walls, built up from the main girders over the loading way, these walls passing through the roof to a height of several feet. Three openings on each of the upper floors permit of railway trucks passing from one section to another, these openings being protected by double-armoured fire-doors of the automatic sliding type.

The fire broke out on the top floor of the central section, this and the floor beneath being damaged very seriously. So intense, indeed, was the heat that the girders supporting the floors—which were of massive proportions in order to carry the heavy weight of loaded trucks—were distorted in an extraordinary manner, while the roof was destroyed completely. It is remarkable, therefore, that a fire of such intensity should be confined to the original section in which it broke out. It is more remarkable that in neither of the adjoining sections did the temperature at any time rise appreciably. This is proved by the fact that the fusible links fitted to the doors on the opposite sides of the party walls remained intact, although they fuse at 155F.

Examination after the fire had been subdued showed that all the fire-doors were uninjured, those on the far side of the party walls not even being blackened by the smoke. It was due entirely to the presence of these doors that the outbreak was prevented from spreading to the remaining portions of the building with its valuable contents, and thus increasing the damage threefold.

The double-armoured fire-doors at the Bolton warehouse were constructed by Mather and Platt, Manchester, and consist of several thicknesses of well-seasoned wood, tongued and grooved and secured by clenched nails. They are covered completely with sheets of tinned steel in such a manner that while free to expand they exclude all air and cannot become detached. By excluding the air from the wood combustion is retarded so effectually that exposure to flames for several hours results merely in the surface becoming carbonised. An attachment on the doors ensures that they close automatically upon an outbreak of fire, thus eliminating the human factor that fails sometimes at the crucial moment.



View looking north from Bolton Station platform, south end.



View on top floor from south end, looking north.

### VIEW OF A WAREHOUSE AT BOLTON AFTER A FIRE.



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## UNIVERSITY COLLEGE OF NORTH WALES, BANGOR.

The authorities of this College, in conjunction with those of the North Wales Heroes Memorial, are taking the preliminary steps towards the appointment of an **ARCHITECT** for the new Science Buildings at Bangor to be erected in connection with the Memorial. They are anxious to include in the select list of Architects invited to compete the names of one or two Welsh Architects, and to that end they invite Architects practising in Wales or of Welsh nationality to send in their names to the College Registrar not later than December 31, with some indication of the kind of work they have previously done.

JOHN EDWARD LLOYD,

Secretary and Registrar.

December 7, 1918. 254

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An examination qualifying for admission Members or Associates will be held in April next. Intending candidates should send in application for permission to sit, on forms to be obtained from the Honorary Secretary, 28, Victoria Street, Westminster, S.W.1., on or before January 31, 1919.

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# ARCHITECTURAL AND BUILDING EVENTS OF THE YEAR.

## *R.I.B.A. Transactions.*

A DEPUTATION of architects and surveyors waited on Dr. Addison to state the case for abolition of Government control of material as far as possible after the cessation of hostilities.

A committee was appointed to consider "the whole relation of architecture to architects, to the Institute and Kindred Societies, to the public and each other."

A Government Committee for Industrial Research having been formed, the R.I.B.A. has submitted to it for investigation several subjects relating to the building industry.

At a general meeting of the R.I.B.A. on January 14, was resolved "to represent to the Government the various objections to the continuance after the declaration of peace of the present war restrictions on building."

Mr. Ernest Newton, A.R.A., was the Royal Gold Medallist of the year, and it was universally recognised that the honour could not have been better bestowed. A portrait of Mr. Newton appeared in our issue of March 6.

"Unity of the Profession" was the subject of a debate in which Professor F. M. Simpson made the useful suggestion of an appeal to outside architects to subscribe neither time nor money towards the benefits procured them by the Institute; reopening of the Licentiate division; and a more general agreement upon the essentials of architectural education.

A rather piquant controversy on the education of the architect which arose between Mr. Lionel B. Madden, M.A., of Liverpool University, and Mr. Arthur Keen was reported in our issues of January 2 and March 6.

The annual report, reproduced in our issues of May 1, May 8, and May 15, revealed no startling feature, but was a faithful reflection of the architectural position during the period which it covered.

An exhibition of American softwood timbers was opened at the Royal Institute Galleries in October.

At the first general meeting of the session 1918-19, held on November 4, the draft Bill of "An Act to amend the Law Relating to the Acquisition of Light" was presented.

In his presidential address delivered on November 4, Mr. Henry T. Hare touched lightly on questions of reconstruction, control of materials, timber supply, housing, the status of the architect, war memorials, and light-and-air disabilities.

On December 2, a general meeting of the Institute was held to consider a Bill that has been drafted by the Council to amend the law relating to the acquisition of rights of light. In introducing the subject, Mr. Henry T. Hare said that the law as it stands was almost entirely made up of the rulings of judges. He did not think there was any division of opinion amongst those who understood the matter that the present state of the law was unsatisfactory and needed amendment. The resolution authorising the Council to promote the Bill, of which the text was given in our issue of December 11, was passed unanimously.

## *Other Societies and Institutions.*

The Board of Trade, in conjunction with the Board of Education and with the advice of representative members of the Royal Society of Arts, the Arts and

Crafts Exhibition Society, the Art Workers' Guild, the Design and Industries Association, and various representatives of manufacture and commerce, framed a scheme to establish a British Institute of Industrial Art.

The annual report of the Society of Architects showed that this society, like so many others, worked even more strenuously in war-time than it did under peace conditions, and it placed its clerical staff freely at the disposal of the Beaux-Arts Committee and of the Professional Employment and Reorganisation Committees of the Architects' War Committee.

The University School of Architecture, University College, London, including the Department of Town-Planning, has carried on bravely in spite of adverse conditions due to the war.

Mr. Isaac Taylor, F.R.I.B.A., in his presidential address to the Manchester Society of Architects, dealt with a number of interesting architectural topics, and more especially with the danger of the architect being ousted by the specialist, and with the subject of architects' fees.

Mr. Hastwell Grayson, F.R.I.B.A., one of the trustees of the Elmes Testimonial Fund, has announced that the fund raised for the benefit of the widow and son of Harvey Lonsdale Elmes had come into the hands of the trustees, the son having died last year, and the trustees had drawn up a scheme by which a scholarship in architecture and the fine arts would be tenable either at Liverpool University or some approved institution. The scholarship is of the value of £30 a year.

A school of civic design in connection with the Manchester School of Architecture has been founded, and Professor Beresford Pite gave an inaugural series of lectures.

It was resolved by the Council of the Institution of Civil Engineers that its examination in engineering drawing, bills of quantities, and elementary knowledge of specification, hitherto optional, should become obligatory after January 1, 1919, for all candidates for associate membership.

Mr. H. D. Searles-Wood, F.R.I.B.A., in his presidential address to the Concrete Institute on November 28, described the research work that had been done by the Institute in conjunction with the Department of Scientific Research, and mentioned that the standard specification for reinforced concrete was nearly ready for publication.

Liverpool Architectural Society has now completed seventy years of useful service.

A "supplementary statement" issued in June by the London Master Builders' and Aircraft Industries Association deals drastically with several aspects of State control in the building industry, which, more than any other industry, has been bound hand and foot by Government restrictions.

The Building Trades Parliament was inaugurated at the end of May at a meeting held at the Central Hall, Westminster, Sir David Shackleton, K.C.B., presiding (see our issue for June 5).

At the annual meeting of the Town Planning Institute, which was held on June 20, the president, Mr. E. R. Abbott, said that in 1913 there was great



enthusiasm for town-planning, but the war created great difficulties. Mr. H. R. Aldridge deprecated the setting-up of commissions that were not responsible to Parliament, and he advocated the formation of a powerful Ministry of Health.

The annual exhibition of the Liverpool University School of Architecture was certainly a brave show, considering the adverse conditions, the drawings being sufficiently good to justify this plucky example of the gentler means of carrying on.

The London Society protested strongly against the commandeering of Adam Houses in the Adelphi by the Air Board.

At the annual general meeting of the Federation of British Industries, held in November at the Connaught Rooms, resolutions were passed (1) urging the necessity of maintaining the principle of private ownership of capital, (2) emphasising the importance of raising production to the highest level, and of ensuring the maintenance of industrial peace and the enjoyment by all those engaged in industry of the fullest share practicable in the creation and distribution of wealth, (3) apportionment of taxation to encourage increased production, (4) the importance of improving education of all grades, to the enrichment of national life, (5) securing in all housing schemes the greatest amenity of lay-out and design, avoiding the segregation of classes, (6) inviting the co-operation of the Government, labour, and educational authorities in the improvement of technical and higher commercial education, (7) affirming the Federation's approval of the general principles of the Whitley Report, and (8) impressing on manufacturers the great advantages of the co-operation and organisation of industry through trade associations.

At the quarterly meeting of the Industrial Council for the Building Industry, held in Edinburgh on October 29, Mr. James Storrs, M.P., in the chair, a draft constitution for the formation of Regional Councils was referred back, and a resolution was passed that "This Industrial Council, whilst recommending that employers should do everything possible for disabled men, considers that the Government should make proper provision for all men who have been disabled in the country's service." It was decided to form an Education and Apprenticeship Committee of twenty members, with power of co-option. A resolution outlining a scheme of examination for apprentices was also passed.

The Architects' War Committee, which was formed in the first month of the war, has done splendid work of varied and complex character. It has assisted men to commissions in the Army, or to civil employment in Government departments or elsewhere; it has arranged civic-survey schemes; it has raised funds for the relief of distress or for the education of architects' children; and in many other ways has proved invaluable.

At the seventy-first annual meeting of the Builders' Benevolent Institution, held on July 24, all the retiring officers were re-elected, Lieut.-Col. George R. Holland, R.F.A., and Mr. Frank May, J.P., remaining president and treasurer respectively.

At the annual general meeting, held on January 31 in London, the item of chief interest on the agenda was the report of the joint sub-committee appointed to work out the details for an Industrial Parliament scheme. They recommended that the name should be changed to Industrial Council (Building Trades Parliament), and that it should consist of 132 members, half to be operative and half to be employer representatives.

A deputation of the National Federation of Building Trades Employers having waited on the Carmichael Committee appointed by the Ministry of Reconstruction to confer on the licensing of building work, the distribution of available supplies, and

cognate subjects, was asked to give these matters careful consideration and to report upon them to the Committee. In July they reported very fully, recommending that regional committees should be formed in various parts of the country to collect information and act on it.

### *Housing.*

Mr. Edward M. Gibbs, F.R.I.B.A., with great public spirit, worked out and published a scheme for amending the Rent and Mortgage Act, for the provision of State financial assistance to all forms of private enterprise, and for levying house duty on annual houses of less annual value than £20.

A report by the Housing of the Working Classes Committee of the London County Council on housing after the war was issued in October. It deals in detail with the position of the county with respect to population, the supply of houses and rooms, overcrowding and the land available for building.

A most important contribution towards the solution of the housing problem was a series of six lectures delivered by Professor S. D. Adshead, F.R.I.B.A., at University College, London. These lectures, of which abstracts appeared in this journal, afford the most complete survey of the subject, its history, principles, and practice, anywhere to be found.

The Women's Labour League issued a leaflet showing plans of working-class houses upon which the opinions of women were invited. These plans were printed in our issue of January 16.

In February a valuable memorandum, entitled "The Housing of the Working Classes Acts, 1890 to 1909," was issued by the Local Government Board for the use of local authorities in the provision and arrangement of houses for the working classes. It was summarised, with illustrations, in our issue of February 6.

Awards in the R.I.B.A. or national competition (for which the Government had allotted £5,000) began to appear in February. Designs in this competition were exhibited at Conduit Street in May, and were criticised by Mr. Quennell in our issue of May 8.

The important Government circular of March 18 setting forth the terms of State aid, was published in our issue of April 3. A similar circular issued by the Scottish Local Government Board was printed in our issue of the following week.

In a circular issued by the Local Government Board to metropolitan and other local authorities the Treasury scheme of national housing subsidies was set forth—see our issue for March 27.

Two articles on "A Neglected Aspect of the London Housing Problem" appeared in our issues of March 20 and April 3. Messrs. G. Ll. Morris and H. W. Parnacott drew attention to the neglect of some fine old houses that have fallen into disrepair, but deserve restoration.

The Government policy was explained in the House of Commons by Mr. Hayes Fisher on May 1.

In May a committee on housing loans was formed by the Minister of Reconstruction to advise as to the granting of loans to persons and bodies other than local authorities (see Journal of May 22, p. 242).

A valuable paper on the standardisation of house designs, which was read before the Scottish annual meeting of the Institution of Municipal and County Engineers, was published in the Journal of June 19.

The financing of builders by local authorities has received attention by the Finance Committee of Birmingham Corporation, who suggested, last July, loans of corporation money to builders, at a rate of interest to be agreed upon from time to time.

In conformity with a resolution passed by the London County Council on July 15, the Building Acts Committee of the Council instructed the chief engineer, the architect, and the valuer to report upon town-planning in Greater London, with especial



reference to questions relating more or less directly to housing.

At a conference held in London on September 24, between representatives of the Federation of British Industries and of the Labour side of the National Alliance of Employers and Employed, the chief subject of discussion was a proposal to form public-utility societies to help in the provision of housing accommodation, and a scheme was adopted.

In the debate on the second reading of the Housing Bill in the House of Commons on October 28 the opposition was so strong as to foreshadow the subsequent withdrawal of the Bill.

The withdrawal of the Housing Bill was, as it appeared to us, and as we said at the time, significant of two things—the inadequacy of the measure, and the recognition that, as an electioneering device, large promise is a better recommendation than poor fulfilment.

On November 9 the Housing (Financial Assistance) Committee appointed by the Minister of Reconstruction dealt specially with the position of public-utility societies with regard to housing, the recommendation being that loans of eighty per cent. of the value of any housing scheme carried out by such societies should be made by the State at the lowest rate at which it can lend without loss, and that advances might be made during rebuilding, with repayment spread over fifty years. They further recommend, however, that "the State should bear the seventy-five per cent. of the loss, and that local authorities should be empowered to subscribe to the remainder."

The Housing Report of the Tudor Walters Committee was reproduced in our issues of November 20 and 27.

An interim report issued in October by the Women's Housing Committee of the Ministry of Reconstruction insists on a minimum accommodation of living-room, parlour, scullery, three bedrooms, larder, and bath-room. Not more than twelve houses should be built to the acre.

The Secretary for Scotland, answering questions in the House of Commons on November 14, stated that circulars sent out by the Local Government Board had elicited the information that in Scotland there was a shortage of 108,902 houses. Schemes for more than 10,000 houses had been prepared, and it was proposed to constitute a panel of architects to advise and assist local authorities; while a committee of women had already reported on the planning of houses from the housewife's point of view.

In answer to questions by Lord Wolmer in the House of Commons, Dr. Addison stated that the bricks required for the building of 300,000 houses would be, approximately six thousand million, but he hinted that these figures were subject to the consideration of alternative methods of construction.

#### *War Memorials.*

Liverpool Cathedral scheme comprised the marking off from the main structure, by means of an open-work gylle, of a chapel in which a central enotaph would be placed, bearing a volume in which the names of the fallen would be inscribed. Mr. G. Gilbert Scott, the architect of the cathedral, designed the memorial.

For a Scottish national monument at Edinburgh, Mr. G. Washington Browne exhibited in the Royal Scottish Academy a scheme for the completion of the national monument on Calton Hill.

In "The Times" of July 16 there was a proposal for a cloister or campo santo at Westminster Abbey. A circular issued in December by the Royal Academy War Memorials Committee announced the formation of an executive committee comprising twenty-four members, among whom were Mr.

Reynald Blomfield, Mr. Henry T. Hare, Professor W. R. Lethaby, and Sir Aston Webb. The committee is prepared to give advice on all questions relating to the scope and character of memorials.

One of the most grandiose schemes is that of the Veterans' Club, which proposes an Imperial memorial for which at least a million sterling will be required. An Overseas Memorial is proposed for London: and among school memorials that for the Leys School at Cambridge, for which Sir Aston Webb has designed a hall, is conspicuous.

Sir Edwin Lutyens has been commissioned to prepare a design for a shrine to be erected in Hyde Park to commemorate the cessation of hostilities. It is estimated that the cost will be about £50,000, to be provided by Mr. S. J. Waring.

Leeds contemplates the erection of a Temple of Fame, comprising an art gallery, a free library, and a local war museum, to cost some £250,000.

At a meeting held at Caxton Hall, Westminster, on October 31, designs and plans for an Empire War Memorial of which Major Pawley, V.D., is the author, were explained.

#### *Reconstruction.*

As to industrial reconstruction, those were very wise words that fell from the King in his reply to the addresses presented to him by the Lords and Commons. "We have," said His Majesty, "to create a better Britain, to bestow more care on the health and well-being of the people, and to ameliorate further the conditions of labour. May not the losses of the war be repaired by a better organisation of industry and by avoiding the waste which industrial disputes involve? Cannot a spirit of reciprocal trust and combination of effort be diffused among all classes?" This is the gist of the whole matter.

#### *Personal.*

Mr. T. F. Rider, one of the founders of the London Master Builders' Association, and Chief Commoner of the Corporation of the City of London, was invested with the Victorian Order on the occasion of the visit of the King and Queen to the Guildhall in celebration of their silver wedding.

A member of the National Federation of Building Trades Employers, Lieutenant-Commander P. T. Dean, of Blackburn, was awarded the V.C. for gallantry in the attack on Zeebrugge.

Mr. Solomon J. Solomon, R.A., was elected President of the Royal Society of British Artists.

Mr. Banister Fletcher, F.R.I.B.A., was elected Sheriff of London.

Mr. Charles T. Ruthen, F.R.I.B.A., was, in February, appointed Deputy Controller of Accommodation, and Chief Inspector to the War Cabinet Committee on Accommodation—both honorary posts.

The first prize (£250) in the National Memorial Plaque competition was won by Mr. E. Carter Preston, of Liverpool University.

Mr. G. Gilbert Scott, F.R.I.B.A., the architect of Liverpool Cathedral, was elected an Associate of the Royal Academy.

Mr. (now Sir) E. L. Lutyens, F.R.I.B.A., was in the New Year's honours list as the recipient of a knighthood.

#### *Obituary.*

The obituary for the year includes Mr. Thomas Costigan, who had been secretary to the London Master Builders' Association, the Builders' Benevolent Institution, and the Institute of Builders; Mr. Albert H. Hodge, R.B.S., an accomplished sculptor, from whom, as he was only forty-two, greater things than he had already achieved were confidently expected; Sir John Wolfe Barry, who was the fifth and youngest son of Sir Charles Barry, R.A., the architect of the Houses of Parliament; Mr. W. F. Yeames, R.A. (retired); and Major J. M. W. Halley, F.R.I.B.A.



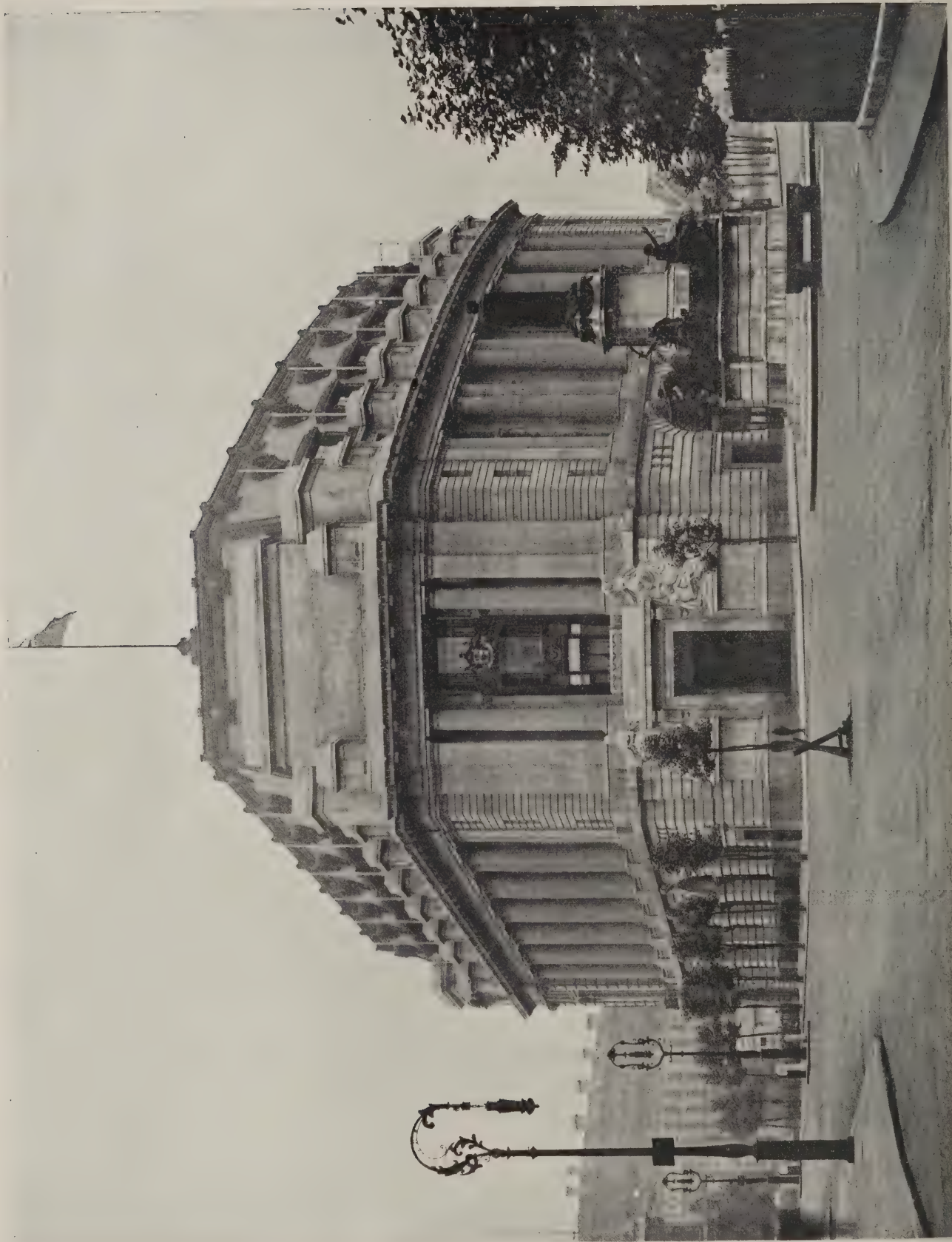


Photo : Bedford Lemere.

AUSTRALIA HOUSE, STRAND, LONDON.



## AUSTRALIA HOUSE.

THE opening of Australia House this year by His Majesty the King marked the completion of a further important stage in the filling up of the Aldwych "island" site, which so long has lain a desolate waste within the very heart of London. Much yet remains to be done, however, before the possibilities of this considerable area may be regarded as fully developed.

It was in December, 1911, that the Commonwealth Government agreed upon the Strand-Aldwych site for their London headquarters and decided to buy the freehold of the whole area which is bounded on the south and east by the Strand, on the north-east by Aldwych, and on the west by Melbourne Place. The cost of the purchase, including an arrangement as to the freehold of the site of the already existent Victoria Building, amounted to £379,756, while the contracts for the building itself, including the probable cost of materials and furniture brought from Australia, in January, 1917, were estimated to involve an expenditure of upwards of £450,000. Actually, the total cost is little short of £1,000,000.

It was in February, 1912, that Mr. A. Marshall Mackenzie and Mr. A. G. R. Mackenzie were selected, after due consideration, as architects for the scheme. It should be mentioned that Mr. A. G. R. Mackenzie has since been more particularly associated with the building.) The exterior is noble in its general mass and singularly refined in its decorative detail, the design being frankly modern. It is described by the architects themselves as having a foundation in the Roman style, modified by certain suitable qualities derived from French eighteenth-century architecture. The composition generally is built up in three stages—first, a series of arches and piers of rusticated masonry; secondly, a magnificent colonnade of coupled columns with a strong entablature above, surmounted by square masses of stone emphasising the intervals of structural support; and, thirdly, a

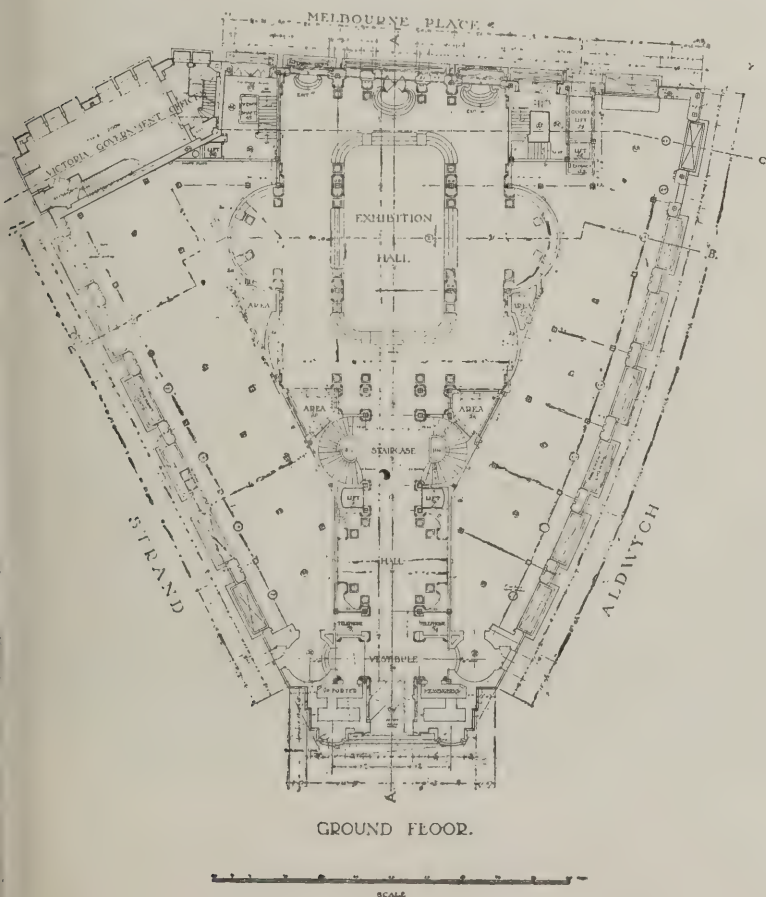
gracefully proportioned Mansard roof—the whole forming a composition full of masculine strength and vitality. The elevations are carried out in Portland stone on a base of Australian trachyte. The eastern entrance will be surmounted by a statuary group in bronze by the Australian sculptor (well known in England, however). Mr. Bertram Mackenall, M.V.O. This great work represents Phœbus driving the horses of the sun—an appropriate subject for an Australian house in this day of the fame of the Australian soldier and his crest of the Rising Sun. The sculpture will be double life-size, and its group of figures includes a colossal Sun-God in the centre, and on each side two horses plunging over the clouds. Also at the entrance to the building, and flanking the doorway, is other sculpture, the work of another Australian—Mr. Harold Parker. This consists of allegorical groups denoting the Awakening and Prosperity of Australia, of which the group on the right of the doorway as it is approached from the east—crowned by a female figure, a dying explorer and his companion—represents the Awakening; while on the left are figures symbolical of the industries of the Commonwealth.

An important external feature is the metalwork—the roofwork in copper, and the windows between the stone columns of bronze. All this metalwork was executed by Messrs. N. F. Ramsay (London), Ltd., who were also responsible for the wrought iron and bronze screen and Van Kannel door, the gilt bronze enrichments in the Exhibition Hall, and other internal work, including the important electric light fittings. The stone carving on the south or Strand front was carried out by Messrs. H. H. Martyn and Co., Ltd., of Cheltenham.

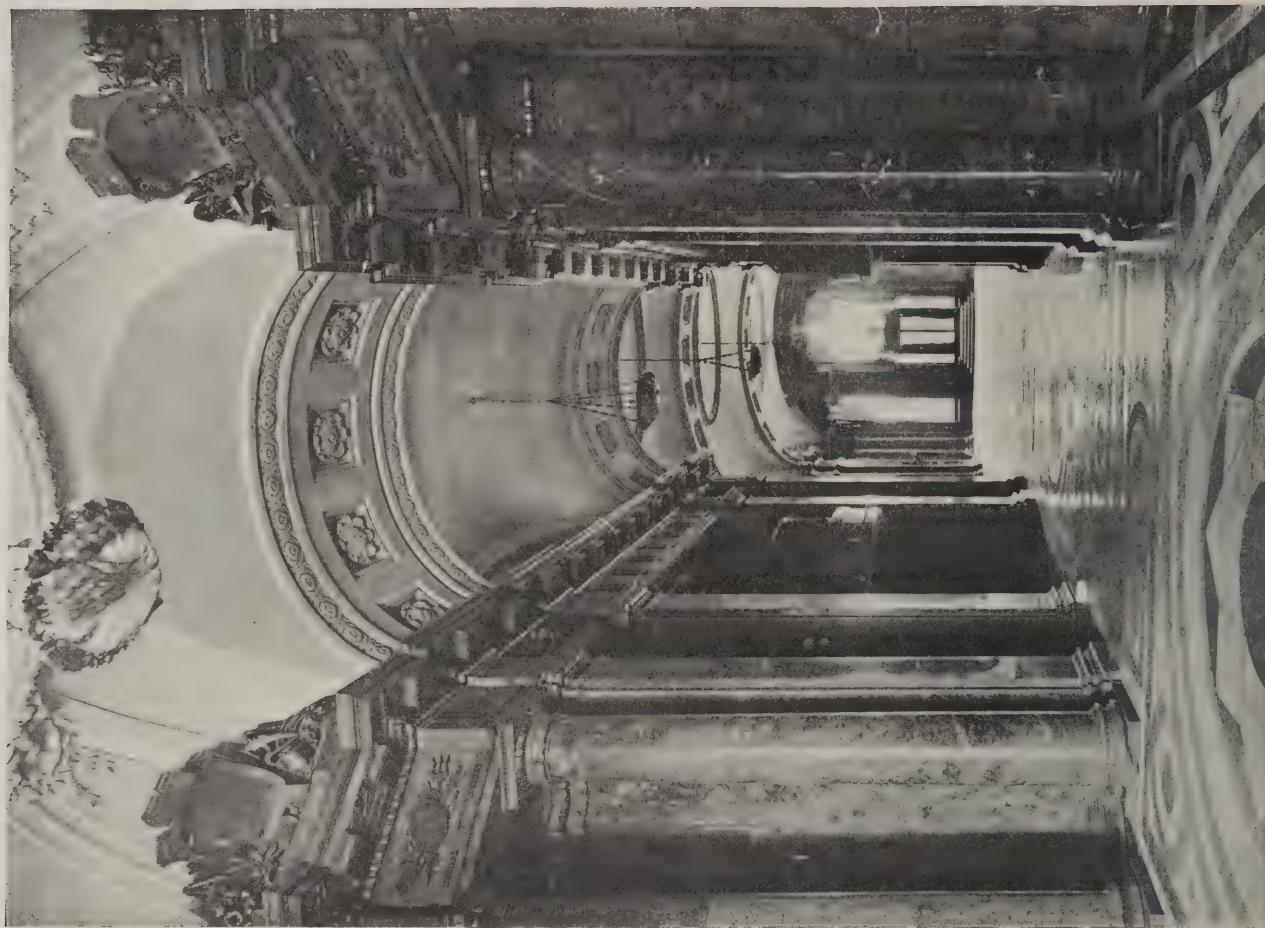
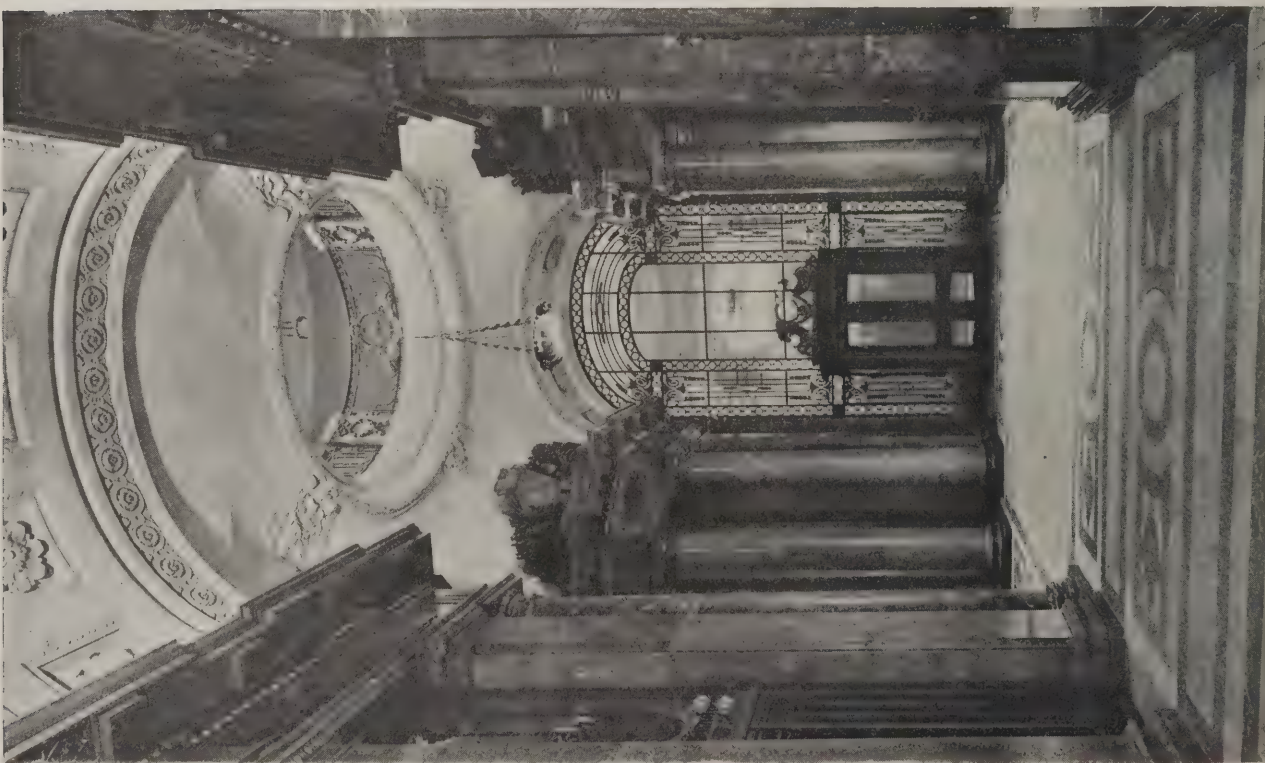
In the Exhibition Hall, the principal apartment, there is a lavish use of Buchan and light Caleula marbles, the carved work in which has been richly gilded and toned. All the marble-work mentioned was carried out by Messrs. H. T. Jenkins and Son, of Torquay. The ceilings of the Exhibition Hall and corridors are of "Lordosis Stuc." Similar stuc material is used for the walls and stringcourses of the staircase, for the lecture hall, and for central landings, the whole having been carried out by Messrs. W. Turner Lord and Co., of London.

The Library and Conference Room is notable as much for its graceful proportions as for its admirable decorations. Its dimensions are 60 ft. long by 30 ft. wide by 20 ft. high—the width being one-half and the height one-third of the length. The sides of the room are designed in a series of arched French casements, Caleula marble pilasters, and bookcases, and there is a pair of marble columns at each end. (This marble-work also was carried out by Messrs. H. T. Jenkins and Son, of Torquay.) In line with the top of the bookcases is a series of emblematical carved panels, the work of Messrs. Wylie and Lochhead, Ltd., of London and Glasgow. The High Commissioner's Room was also carried out by Messrs. Wylie and Lochhead, Ltd., who were likewise responsible for all the interior fittings in Australian timber and marble for the Commonwealth's suite of offices occupying the whole of the first floor.

The principal staircase is of simple yet effective design, and runs through the whole height of the building. Mr. J. Starkie Gardner was responsible for the stair-balustrades to the different landings—







Photos: Bedford Lemere.

AUSTRALIA HOUSE, STRAND, LONDON: VIEWS IN HALL AND VESTIBULE.





*Photo : Bedford Lemere.*

AUSTRALIA HOUSE, STRAND, LONDON: GENERAL VIEW OF EXHIBITION HALL, LOOKING TOWARDS MAIN ENTRANCE.

A. MARSHALL MACKENZIE, LL.D., R.S.A., F.R.I.B.A., AND A. G. R. MACKENZIE, F.R.I.B.A., ARCHITECTS.



fifteen in all. The Bromsgrove Guild executed the iron gates with bronze enrichments to the three openings on the Strand and Aldwych fronts, iron gates for the porters' and messengers' entrance, the ornamental dome in the entrance hall, and also a large pair of wrought-iron gates for the main entrance.

The Caleula marble columns, wall-lining and counter in the Commonwealth Bank, the architraves, dadoes, stairs, and paving in Augustan and Caleula marbles in the main corridors and secondary staircases, and all lavatory division slabs and architraves in Augustan white marble throughout the building were carried out by Messrs. J. Whitehead and Sons, Ltd., of London.

The building is of steel-frame construction, fire-proof throughout, with floors of hollow brick and reinforced concrete, the spans being of a 20-ft. width without beams. The total weight of steelwork (supplied by Messrs. Redpath, Brown and Co., Ltd., of London) was approximately 1,700 tons. All joints were riveted on site, to meet the requirements of the London County Council. The reinforced concrete main staircase was carried out by Messrs. Stuart's Granolithic Co., Ltd., of London. The windows are constructed of Crittall's "Universal" steel casement sections, with solid bronze fittings.

The heating of the principal rooms and corridors was carried out on the patent "Panel" system by Messrs. Richard Crittall and Co., Ltd., of London. The plumbing and drainage work was carried out in

accordance with the latest principles by Messrs. Stitson, White and Co., of Westminster and Willesden.

The installation of lifts, fitted by Messrs. Waygood-Otis, Ltd., of London, includes the following: Two electric passenger lifts, load 2,240 lb. at speed of 300 ft. per minute, arranged with switch control from inside the cage by an attendant; one electric passenger lift, load 1,600 lb., at speed of 275 ft. per minute, and one electric passenger lift, load 1,000 lb., at 250 ft. per min. These last two lifts are arranged so that they can be worked either by the attendant in the cage or by automatic push-button control after the ordinary hours when the attendant is not available. There are two other lifts: one direct-acting hydraulic goods, load 4,480 lb.; and one direct-acting ashes lift, load 672 lb.

In addition to the Post Office instruments, a system of automatic telephones for inter-office communication has been installed in the building by Messrs. The Relay Automatic Telephone Company, Ltd., of London.

Messrs. The American Vitrolite Co. of the United Kingdom, Ltd., fixed Vitrolite in all the walls and partitions throughout the building.

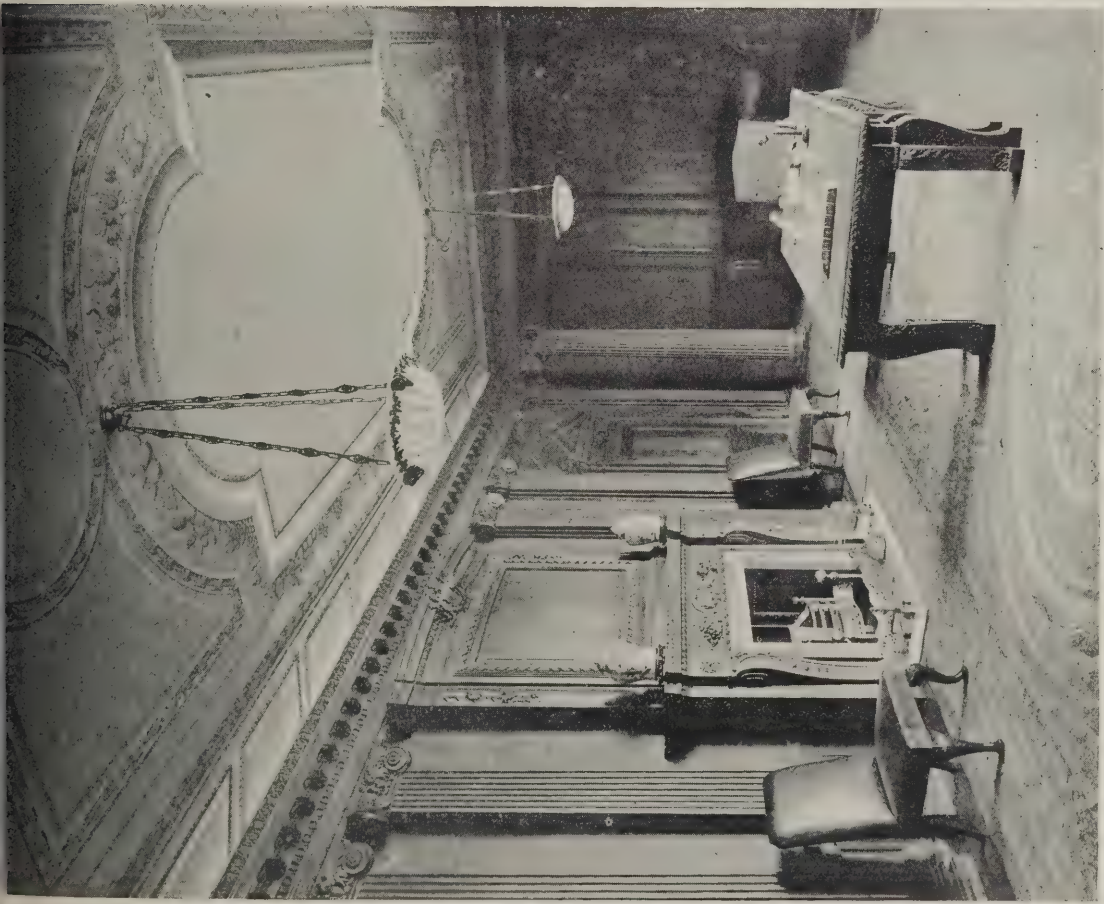
The general contractors were Messrs. Dove Bros., Ltd.; Messrs. Holloway Bros. (London), Ltd., were responsible for the foundations, and Messrs. Fortescue for the excavations. The British Vacuum Cleaner Co., Ltd., were also associated with the work.



Photo: Bedford Lemere.

AUSTRALIA HOUSE, STRAND, LONDON: THE LIBRARY OR CONFERENCE ROOM.





The High Commissioner's Room.

AUSTRALIA HOUSE, STRAND, LONDON.

A. MARSHALL MACKENZIE, LL.D., R.S.A., F.R.I.B.A., AND A. G. R. MACKENZIE, F.R.I.B.A., ARCHITECTS.



Chimneypiece in High Commissioner's Room.

Photos: Bedford Lemere.



## THE NEW OFFICES OF THE CROWN AGENTS FOR THE COLONIES.

IN this building the idea of the architects was to avoid as far as possible that conventional type of design which within recent years has hovered dangerously on the verge of the stereotype. "Government building" suggests, as to the exterior, long lengths of colonnaded elevations dotted over with pediments small and large, and other characteristic features from the architectural box of tricks; and, as to the interior, long stretches of corridor with a succession of rooms which, owing to the exigencies of working, can seldom be used to advantage. This sort of thing has been done so often that we are beginning to get just a little weary of it. Messrs. Simpson and Ayrton's abandonment of the Government office traditions, therefore, is both timely and welcome. That they have made a considerable success of it is apparent from the accompanying illustrations.

The site, though good, is not quite perfect, for the angle which is formed by the meeting of Millbank and Wood Street is slightly obtuse. This particular defect in a site is always somewhat detrimental to the appearance of elevations of buildings of a classical type, and various expedients to hide it have been employed from time to time. One of the most favoured, of course, is to curve the angle. Messrs. Simpson and Ayrton, however, have overcome the difficulty by cutting the angle off and making it an important feature in the design.

Reference to the plan will show that the entrance-hall and staircase are ingeniously accommodated in this angle, from which direct access is gained to the various offices contained in the two arms of which the plan is composed. It will be seen that there are no corridors in the commonly accepted sense of the term, the offices intercommunicating and being divided off one from another by glass partitions. The various departments, besides being self-contained, all converge upon the staircase and lifts, and interdepartmental communication is thus easy and direct.

The most striking view of the building is obtained as the spectator approaches it from the direction of the Houses of Parliament. The angle faces towards him, with its broad pilaster-like masses rising impressively on either side and embracing the windows which light the great staircase. Above the crowning arch is a bold horizontal mass, surmounted by a tower. Messrs. Simpson and Ayrton have surely made out a convincing case for the re-establishment of the much-maligned and generally discredited tower. In such an instance as this its use seems to be singularly appropriate; for it gives just the right emphasis to that part of the building which is the fulcrum of the whole scheme.

The principal entrance is filled with some well-designed mahogany doors, embellished with delicately chased bronze handles and with the letters C.A.C. (Crown Agents for the Colonies) worked into carved wreaths at the top of the panels. Over the entablature to the doorway are the Royal Arms, surmounted by a crown, while seated on pedestals on either side are some fine symbolical figures by the late Mr. Albert Hodge. That on the left is a female figure representing "Prosperity and Development, with the Attributes of Commerce, Health, and Education," while that on the right is a male figure representing "Administration, with the Attributes of Law and Order." These figures have the right architectonic character. They have nothing of the assertiveness that is a common fault of only too large a proportion of the sculpture on our modern buildings. They harmonise admirably with their architectural setting, and contribute considerably to the excellence of the total effect. This

is the kind of work that we always expected from Mr. Hodge, who, of course, had the advantage of a thorough architectural training.

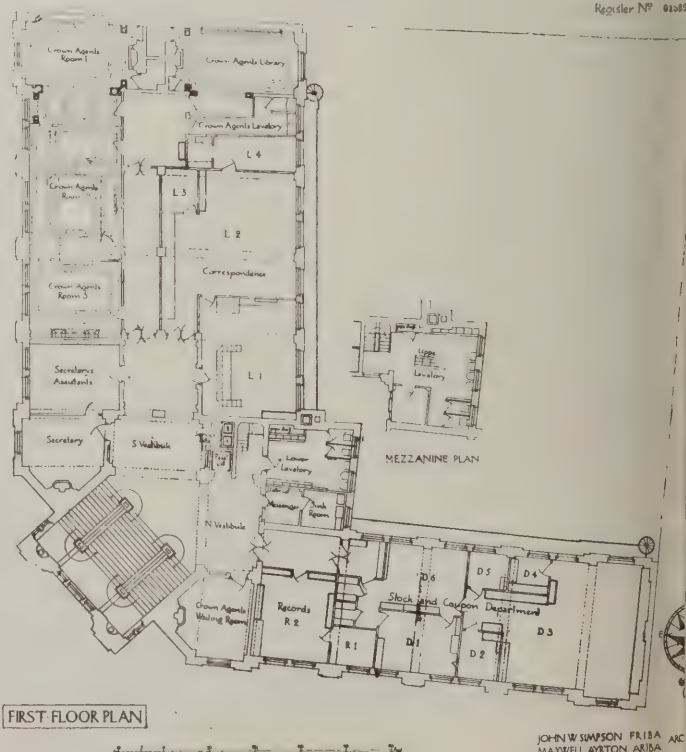
The general elevations are well and effectively composed. There is, first, a plain base, then horizontal rustication up to the first-floor level, which is marked by balconies supported on small consoles. Above, and separating groups of double windows, rise broad pilasters to the third-floor level, terminating in abutment-like features decorated with lions' heads. Above, again, are decorative stone urns, between which, and partly concealing the slate-covered mansard roof behind, runs a balustrade. The frieze is marked by a continuous treatment of triglyphs and circles alternated. In the later part of the building, shown on the left of the general view, certain modifications in general treatment have been introduced, though in all its essential features it remains the same as the older part of the work. The entrance for vehicles is in Wood Street, the driveway sloping down to the loading yard, which is situated at basement level.

Internally, as already explained, the most important feature is the staircase, which, constructed throughout of Corsham Down stone on reinforced concrete, runs through the whole height of the building. It is a very dignified piece of work, upon which considerable care has been spent, particularly in the design of the wrought-iron balustrade, which has for its principal motif the letters C.A.C. The niches in the staircase wall contain busts of Julius Cæsar and Augustus.

A fine and fitting culmination to the ascent is provided at the top of the staircase. Here we are immediately beneath the tower. This fine square space, with the staircase ascending in a broad flight from the landing below, and with its coved ceiling supported on finely modelled consoles above, is a veritable *tour de force*. It is splendidly lighted by three windows high up on the external staircase wall, and a certain amount of light is also admitted through the lantern of the tower above. The cove itself is a

CROWN AGENTS FOR THE COLONIES 4 MILLBANK SW

DRAWING NO.  
Register No. 01289



FIRST FLOOR PLAN

JOHN W. SIMPSON, F.R.I.B.A.  
MAXWELL AYRTON, A.R.I.B.A.





NEW OFFICES FOR THE CROWN AGENTS FOR THE COLONIES, MILLBANK, WESTMINSTER.  
JOHN W. SIMPSON, F.R.I.B.A., AND MAJOR MAXWELL AYRTON, R.A.F. (A.R.I.B.A.), ARCHITECTS.





NEW OFFICES FOR THE CROWN AGENTS FOR THE COLONIES,  
MILLBANK, WESTMINSTER: DETAIL OF ANGLE

particularly fine piece of modelling in stucco, containing the badges and emblems of the Crown Colonies. At the suggestion of the architects, it was signed with the name of the craftsman responsible for it, Mr. Stiles. All this work, together with the various cornices, soffits to stairs, panels, etc., was modelled in stucco by Messrs. G. Jackson and Sons, Ltd., of London, who also carried out in the same material the wall surface, cornices, etc., in the extension.

By far the most interesting rooms in the whole building are the offices of the Crown Agents, situated next to each other on the first floor, overlooking Millbank and the river. Their arrangements may be studied on the plan reproduced. All are characterised by a decorative scheme of much refinement.

The wall panels are coloured a delicate creamy-grey, lined around with a colour of somewhat darker tone. All have a white marble chimneypiece with an inner surround of black marble containing a black iron firegrate. The kerbs are all of white marble. All overmantels are fitted with mirrors in delicately designed bronze frames. The rooms, as will be seen, differ one from another architecturally. All three rooms have oak block floors, solid mahogany doors and fittings, and French windows, and all are illuminated by electric light on the indirect principle.

The carved statuary marble chimneypiece for the High Commissioner's room, the other marble chimneypieces in the main building, together with the paving in statuary and Belgian block marbles to all six floors, were supplied and fixed by Messrs. J. Whitehead and Sons, Ltd., of London.

The electric fittings, supplied by the British Thomson-Houston Co., Ltd., of London, are mostly of the standard "Eye-rest" type. Those used in the private offices, also the large fitting at the top of the staircase, were specially made from designs prepared by the company and approved by the architects.

The building, which worked out at the remarkably low cost of 1s. 2d. per foot cube (inclusive of heating and of electric-lighting mains, but not of furnishing and special fittings) is constructed generally of brick and stone, Whitbed Portland for the exterior and Corsham Down for the internal work. The floors and the flat mansard roofs are fire-resisting throughout, and were executed on their hollow-brick system by Messrs. Homan and Rodgers, of London, who also were the engineers for the constructional steelwork and reinforced concrete to the retaining walls, courtyard raft, staircases, etc. The floor to the entrance-hall and the corresponding space on the higher levels are laid with black and white marble tiles. The building contains on the top floor its own canteen and kitchen arrangements. The whole of the gas-cooking equipment in the kitchen was supplied by the Richmond Gas-stove and Meter Co., Ltd., of London, and embraces the following units: (1) One large central cooking-range, consisting of four ovens, with liberal boiling and grilling accommodation on top; (2) one large "double-decker" pantry oven; (3) two massive "Whitehall" roasting ovens, each measuring 6 ft. high by 2 ft. 3 in. wide by 3 ft. deep; (4) two boiling tables, each erected on stand and measuring over all 6 ft. long by 2 ft. 6 in. wide by 2 ft. 9 in. high, and 6 ft. long by 2 ft. deep by 2 ft. 9 in. high respectively; (5) one large grill on stand, fitted with warming closet on top, and measuring 2 ft. 9 in. wide by 1 ft. 9 in. deep over all; (6) one pantry table measuring 3 ft. 3 in. wide by 1 ft. 9 in. deep by 2 ft. 9 in. high.

Messrs. Bratt, Colbran and Co. supplied stoves and grates, and Mr. James Gibbons the casements and fittings. Messrs. Waygood-Otis, Ltd., fitted the following lifts: Two electric passenger lifts for a load of seven persons at 150 ft. per minute, car switch control; two electric service lifts for a load of 2½ cwt. at 100 ft. per minute—automatic control and pushes on each floor. Messrs. Holliday and Greenwood, Ltd., of London, were the general contractors.





Crown Agent's Room No. 2.

NEW OFFICES FOR THE CROWN AGENTS FOR THE COLONIES, MILLBANK, WESTMINSTER.

JOHN W. SIMPSON, F.R.I.B.A., AND MAJOR MAXWELL AYRTON, R.A.F. (A.R.I.B.A.), ARCHITECTS.



Crown Agent's Room No. 3.





Crown Agent's Room, No. 1.



Crown Agent's Room, No. 3.

NEW OFFICES FOR THE CROWN AGENTS FOR THE COLONIES, MILLBANK, WESTMINSTER.  
JOHN W. SIMPSON, F.R.I.B.A., AND MAJOR MAXWELL AYRTON, R.A.F. (A.R.I.B.A.), ARCHITECTS.





NEW OFFICES FOR THE CROWN AGENTS FOR THE COLONIES, MILLBANK, WESTMINSTER :  
VIEW FROM STAIRCASE LANDING.

JOHN W. SIMPSON, F.R.I.B.A., AND MAJOR MAXWELL AYRTON, R.A.F. (A.R.I.B.A.), ARCHITECTS.



## BRITISH COLUMBIA HOUSE, REGENT STREET, LONDON.

REGENT Street was designed and carried out under an Act of Parliament between the years 1813 and 1816 at an approximate cost of a million and a half sterling. "In the opinion of Sir Robert Smirke," says Mr. A. E. Richardson, "nobody but the indefatigable Nash could have carried the scheme through. With the exception of two large blocks designed by Sir John Soane, Nash was responsible for the architectural design of all the buildings erected. His particular *forte* was the harmonious grouping of masses of buildings all of which, although different in composition, produced unity of effect by being placed in juxtaposition." Regent Street, indeed, was the one show-place of the Metropolis in which we could all take a legitimate pride. The spirit of progress, however, has decreed its demolition.

The northern half of Waterloo Place has been rebuilt in part, though as yet the modern work is not sufficiently obtrusive to upset the balance of the whole. The two sides of the Place still remain (except for a comparatively new building on the south-west angle formed with Pall Mall) much as they were left by Nash. His stucco colonnades have to this day an attractiveness that innumerable coats of paint cannot altogether obscure. It is a pity that Nash built in a material that lends itself so readily to demolition. One is almost tempted to think that if he had used something more durable—Portland stone, for example—people would not be so ready to pull it down.

It cannot be denied that the buildings of the Regency period are on far too modest a scale to suit modern requirements. Wherever the original work has disappeared, something at least two or three more storeys in height has been erected in place. The present effect is necessarily somewhat broken—high and low alternating with restless sequence.

The "Metropolitan Improvements" of the Regency period were the direct outcome of the peace interval following the overthrow of Napoleon, when the Continent became again accessible to the traveller. To the large numbers of people who had then rushed over to see the sights of Paris and other Continental cities, London in comparison seemed a deadly dull sort of place, and public opinion became unanimous in the demand for improvement.

John Nash, who was a pupil of Sir Robert Taylor and a contemporary of S. P. Cockerell, had acquired a competency and retired some time before he was called upon to carry out the Regent Street improvements. His return to practice, as Mr. A. E. Richardson relates in his "Monumental Architecture," was directly due to the influence of S. P. Cockerell, who, while on a visit to him at Carmarthen, "fired his dormant enthusiasm for architecture." He showed himself to be "a man of daring enterprise and great capacity for town-planning conceptions."

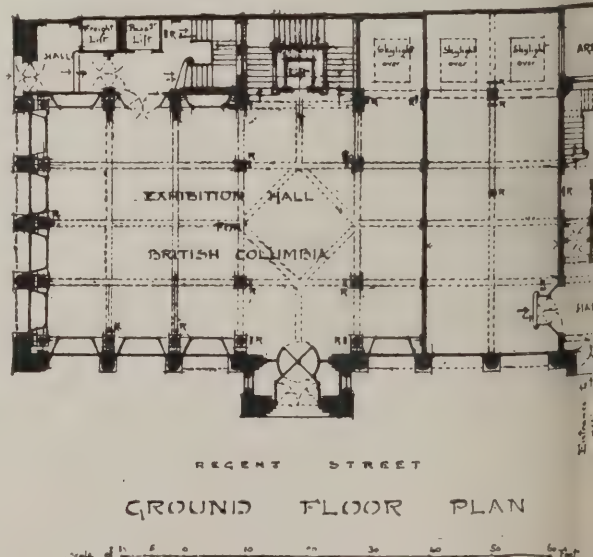
Much of the rebuilding already carried out falls short of the standard set by Nash. This, however, is not so much the fault of the architects concerned as of those in authority, who, when the necessity for reconstruction first became apparent, failed to provide a comprehensive scheme for the guidance of those who should be entrusted with the work. Certain buildings, of course, are quite successful, and among them must be included the one at present under notice. The new building which has been erected for the Agent-General of British Columbia, from the designs of Mr. Alfred Burr, F.R.I.B.A., is first in the lower part of Regent Street. It is numbered 1 and 3, and stands on the commanding corner site formerly occupied by the old Hotel Continental. Mr. Burr's building is therefore the

connecting link between the reconstructed portion of Waterloo Place and a section of Regent Street which was rebuilt some considerable time ago.

The elevations are well composed in the English Renaissance manner, additional interest being given to the Regent Street front by the introduction of windows to the first and second floors over the principal entrance, which projects somewhat beyond the main building line. The fine group of sculptures above, and the coat-of-arms in the pediment to the feature, are by Mr. F. W. Pomeroy, A.R.A. The figure in the centre is "Justice," flanked left and right by "Progress" and "Industry."

The building is largely of steel construction, the walls are of a thickness to comply with the London Building Acts. They are of brick, with Portland stone facings on the street fronts, and white-glazed brick facings on the back elevations. The floors are of hollow concrete with steel centre and Hy-Rib reinforced intermediate beams. The roof is of concrete, with Hy-Rib reinforcement, and is covered with asphalt or green slates, with copper dressings. The flooring to the rooms above the ground-floor storey is of British Columbia pine, with ventilating gratings in the skirtings. The basement floor is of asphalt. The exhibition hall (ground floor) is paved with geometrical patterned Piastrella and green marble, with column pedestals in dark green marble. The main staircase has Piastrella marble treads, with dark and light green marble dado and balustrading from the basement to the second floors. The secondary halls are similarly treated, with finely opened-out panelling in cedar and green, the secondary staircases having dado from the basement to the sixth floor. These staircases were carried out in "Marblestuc." All the marble mentioned in the foregoing description was supplied by Messrs. J. Whitehead and Sons, Ltd., London. British Columbia cedar, spruce, and mahogany were used for office fittings, beam casings, pilasters, dadoes, chimneypieces, etc. Doors and screens are of mahogany.

The building contains three passenger lifts and two freight lifts, these, together with the admiralty lift enclosure illustrated below, having been supplied by Messrs. Waygood-Otis, Ltd., of London. The general contractors were Messrs. Holland Hannen and Cubitts, Ltd., of London. Hy-Rib was supplied by the Trussed Concrete Steel Co., Ltd., of Westminster (now of South Kensington).







BRITISH COLUMBIA HOUSE, REGENT STREET, LONDON.

ALFRED BUER, F.R.I.B.A., ARCHITECT.



## PHOENIX BUILDINGS, BIRMINGHAM.

IN the development of modern commercial architecture we in this country for a long time lagged lamentably behind most other nations, particularly the United States. Of late, however, many British corporations and important firms have set an excellent example by employing good architects, and thus have materially assisted in bringing about an improvement in the architecture of commercial buildings. In this category must be included the Phoenix Assurance Company, whose new Birmingham offices, designed by Messrs. Ewen Harper, Brother, and Co., of Birmingham, are shown in the accompanying illustration. The company does not occupy the entire building, portions of it being available for separate letting.

The interior fittings of the Phoenix general offices are executed in polished Cuba mahogany of fine texture, carried out in sympathy with the architectural treatment of the building. The wall panelling is about 12 ft. high, finished at the top with a string-course having Greek key pattern enrichment. A white marble block frieze fills the space to the ceiling. The panels of the mahogany framing are finely quartered in the

grain. They alternate with pilaster panels, with rich carved wreaths and tablets. The entrance revolving door is of patent two-way type, and instead of the circular casing being divided into four parts by the revolving screen it is in two parts only, thus giving great advantage in space over the usual four-way door for people passing through, and at the same time excluding the draught. An interesting feature is the pneumatic check arrangement, by which the revolving part comes gradually to rest after being used, without swinging round to the embarrassment of anyone following. The door is 6 ft. in diameter, and in case of panic it can be thrown open at a moment's notice, leaving a clear exit, without moving levers, bolts, or any other mechanism. The counter is enriched with carved work on the front. Desks and furniture are of the low table type, with wide tops. All the foregoing interior fittings were made by Messrs. Samuel Illion and Sons (Reading), Ltd.

An electric lift was supplied by Messrs. Waygood Otis, Ltd., of London. Rubber paving was executed by Messrs. the Leyland and Birmingham Rubber Co. Ltd., of Leyland, near Preston.



PHOENIX BUILDINGS, COLMORE ROW, BIRMINGHAM.

EWEN HARPER, BROTHER AND CO., ARCHITECTS.

Photo: Thomas Lewis



## NEW PREMISES FOR THE HARTLEPOOLS CO-OPERATIVE SOCIETY, LTD.

THESE premises occupy a commanding site at the junction of Stockton Street and Park Road, West Hartlepool. They form the central stores of the local Co-operative Society. Showing a marked advance on the usual type of co-operative premises, they make a creditable addition to the commercial architecture of the town. The principles of good design have had to be somewhat sacrificed in order to meet the demand for large and continuous show windows; but the entrances to the arcades in the centre of each façade have provided an opportunity for putting in some fairly heavy piers which help to give a sense of support to the upper part of the building generally. Reinforced concrete has been employed for the constructional skeleton of the building, for the whole work up to the ground-floor level, and for a concealed water-tank (for Sprinkler supply) in the upper part of the tower.

The concrete used in this tank was a rich mixture of Pudloed cement, which dispensed with the necessity for an internal rendering.

The premises, including shop fittings and board-room furniture, were designed by Mr. L. G. Ekins, Licentiate R.I.B.A., architect to the Co-operative Wholesale Society, Ltd., 99, Leaman Street, London,

E.I. The main façades are faced with Portland stone, supplied by Messrs. the Portland Stone Company, Ltd. The general contractors were Messrs. T. Hilton and Sons, of Bishop Auckland.

The walls of the arcade, with door and window dressings, are of Burmantofts ivory marmo 'terracotta', supplied and fixed by Messrs. the Leeds Fire-clay Company, Ltd., Burmantofts Works, Leeds.

Stone carving was executed by Messrs. Martyn and Co., of Cheltenham. The windows were supplied by Messrs. the Crittall Manufacturing Co., Ltd., of Braintree. Wall tiling was supplied by Messrs. Art Pavements and Decorations, Ltd., of London. The heating installation includes two boilers No. 4B type eight sections "Ideal," made by Messrs. the National Radiator Co., Ltd., of Hull, and have a combined capacity of 1,468,800 B.T.U. per hour. The radiators were supplied by the same firm, and the boilers are valved in duplicate.

The lighting equipment was carried out almost entirely on the British Thomson-Houston Company's "Eye-rest" system. The lighting points number 530, and the wiring work was entrusted to Mr. Edgar Phillips, of West Hartlepool.



Photos: Thomas Lewis

NEW CENTRAL PREMISES OF THE HARTLEPOOLS CO-OPERATIVE SOCIETY, LTD., WEST HARTLEPCOL.

L. G. EKINS, LICENTIATE R.I.B.A., ARCHITECT.



## BRITANNIA ROOMS, CUNARD BUILDING, LIVERPOOL.

THE new Liverpool offices of the Cunard Steamship Company occupy the most spectacular position in the city—an island site on the river front overlooking the Landing Stage, and having an approximate area of 60,000 square feet. The new building (which was fully illustrated in last year's special issue of THE ARCHITECTS' AND BUILDERS' JOURNAL) provides accommodation not only for the Cunard Company, but also for many other firms, including the Pacific Steam Navigation Co., Ltd., the United Alkali Co., Ltd., Messrs. Edward Bates and Son, the Anchor Brocklebank Line, and the Booth Steamship Co., Ltd.

Some new rooms (called the Britannia Rooms, after the Cunard Company's first steamship) have been lately completed on the sixth or top floor of the building from the designs of Messrs. Willink and Thicknesse, F.F.R.I.B.A., with whom Messrs. Mewès and Davis acted as consulting architects. They serve two purposes: (1) as rooms for the annual or other general meetings of companies accommodated in the building, or, on other occasions, for concerts and lectures; (2) as tea-rooms and a restaurant.

To meet the requirements of purpose No. 1, a portion of the rooms has been raised about three feet to serve as a platform. For purpose No. 2 the new

rooms are very conveniently placed, owing to the proximity of some fine kitchens, which were installed in the building for other requirements of the Cunard Company.

The rooms harmonise architecturally with the earlier part of the building, and the same fine scale is maintained throughout. The style, though classical in spirit, is not pedantically imitative; there is a general freshness of treatment, particularly in the detail, that gives the whole scheme an interest that is lacking in much modern work of a similar type. The rooms are in striking contrast with the average restaurant, whose garish decorations seem to conspire with the ragtime orchestra to disorder the action of the diner's digestive organs.

Access is gained to these rooms by the ordinary lifts of the building, which land close to the entrance.

The construction of the rooms, including the roof of the restaurant itself, is of reinforced concrete, on the Kahn system (Trussed Concrete Steel Co., Ltd.).

The rooms contain a quantity of robust and vigorous plasterwork, executed by Messrs. George Jackson and Sons, Ltd., of London. The floors are laid with "Rublino" tiling (Messrs. Leyland and Birmingham Rubber Co., Ltd.).



Photo: Bedford Lemay

BRITANNIA ROOMS, CUNARD BUILDING, LIVERPOOL: LOUNGE, LOOKING TOWARDS ANNEXE.

WILLINK AND THICKNESSE, F.F.R.I.B.A., ARCHITECTS (MEWÈS AND DAVIS, CONSULTING ARCHITECTS).



## THE EDITH CAVELL HOME FOR NURSES.

IN connection with this building, which has been erected at the London Hospital, Whitechapel, it is interesting to note that Her Majesty Queen Alexandra, the President of the Hospital, graciously desired Lord Knutsford, the chairman of the Hospital, to call it "The Edith Cavell Home," instead of the name originally intended, viz., "The Alexandra Home."

The building has a frontage of about 130 ft. to East Mount Street, with a return frontage of 47 ft. to Oxford Street, facing the Lückes Nursing Home. It consists of eight floors, including the basement, and has accommodation in separate rooms for 110 nurses, twelve sisters, and twelve servants. The basement, which has wide areas all round and is well lighted, contains the heating chamber, the accumulator room, the coal-cellars, servants' rooms, together with a servants' sitting-room, scullery, linen store, larders, bathrooms, and lavatory block detached.

The ground floor contains, in addition to the sisters' and nurses' rooms, a sitting-room and library for nurses, visitors' room, three bathrooms, and tea-room. The upper floors consist entirely of sisters' and nurses' bedrooms. Each is provided with a fitted wardrobe, similar to the other nurses' rooms in the hospital. Each floor is provided with a hair-washing room, fitted with a special electric blower for the use of nurses in quickly cleansing and drying the hair, as in the older parts of the hospital. Each floor is also provided with a central staircase and large electric lift, also with a boot-room, three bathrooms, and a detached lavatory block.

There are also additional escape staircases at each end of the building. The attic floor is used as a boxroom; but it also contains separate iron lockers for the use of nurses.

The building generally is constructed of non-combustible materials, the floors being composed of concrete carried by steel joists. The inside staircases are constructed of reinforced concrete covered with terrazzo mosaic. The home is warmed throughout with hot-water radiators, with coal stoves in the sitting-rooms, and is lighted by electricity. The room floors are covered with linoleum on a prepared cement surface; the large sitting-room and library is floored in oak.

The building was designed by Messrs. Rowland Plumbe, F.R.I.B.A., and Partners, architects, and was carried out by Messrs. Perry and Co., Ltd., contractors, of London. Messrs. Bratt, Colbran, and Co., of London, supplied and fixed the wardrobes, "Heaped" Fire fireplaces, and fire implements throughout. Among the other sub-contractors concerned with the work were the following: Messrs. Waygood-Otis, Ltd. (one bed lift, automatic push button control, to raise 15 cwt. at a speed of 120 ft. per minute); Messrs. Haywards, Ltd. (pavement lights); Messrs. W. G. Cannon and Sons were responsible for the hot-water engineering.

The installation included the heating system, as well as hot and cold water supplies, steam and condense mains, fire hydrants, etc. Messrs. Cannon and Sons have had considerable experience of this work.

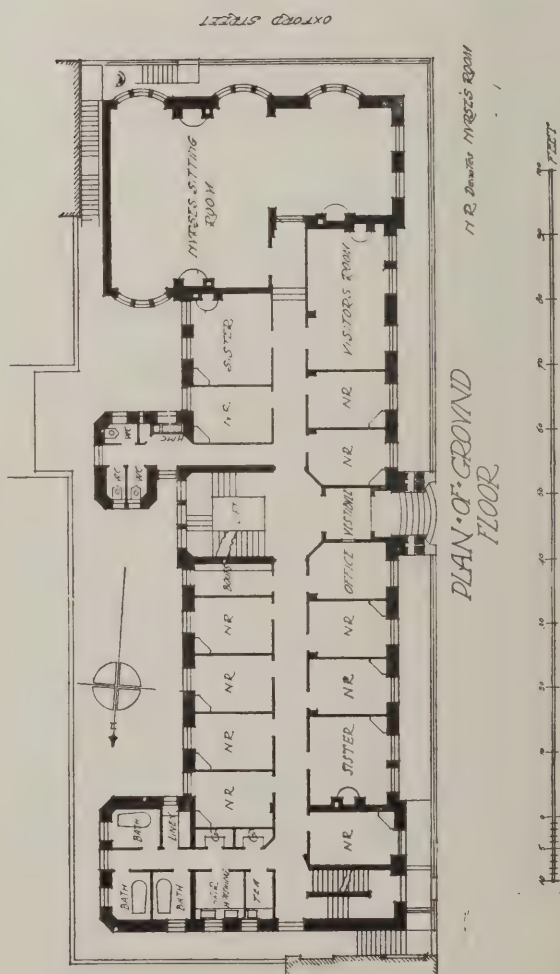
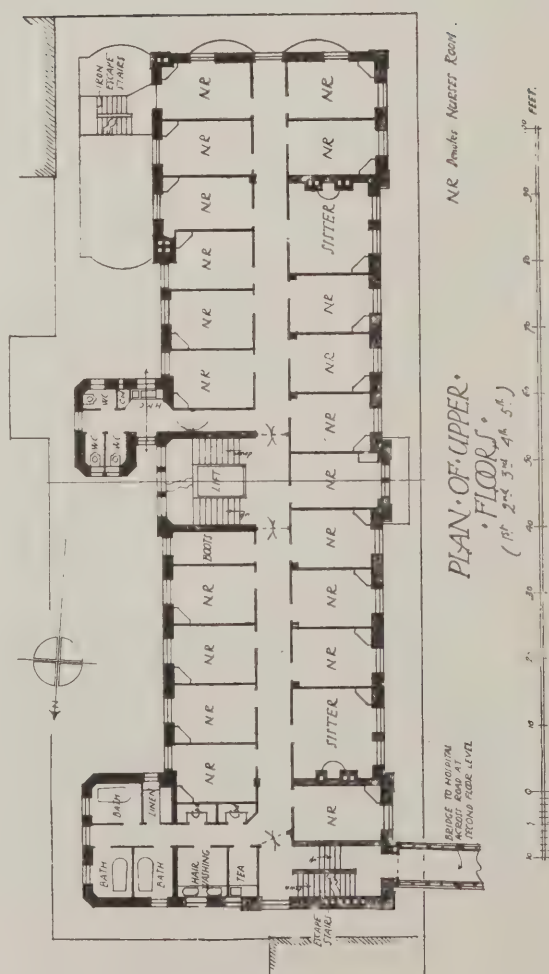


BRITANNIA ROOMS, CUNARD BUILDING, LIVERPOOL: RESTAURANT, LOOKING TOWARDS ANNEXE.

WILLINK AND THICKNESSE, F.F.R.I.B.A., ARCHITECTS (MEWES AND DAVIS, CONSULTING ARCHITECTS)



THE EDITH·CAVELL·HOME·for the LONDON·HOSPITAL·



THE EDITH CAVELL HOME, LONDON HOSPITAL.  
ROWLAND PLUMBE, F.R.I.B.A., AND PARTNERS, ARCHITECTS.



having installed complete heating and water systems in many important buildings for the Admiralty, War Office, London County Council, public institutions, hospitals, theatres, private mansions, etc.

The kitchen is an excellent example of up-to-date planning and equipment. The approximate floor area of the kitchen and offices is 4,000 square feet. The cooking is done by steam and gas, the whole of the apparatus having been installed by Messrs. James Slater and Co. (Engineers), Ltd.

On the left on entering the kitchen proper is a range of gas ovens heated on the regenerative principle. These ovens are employed for roasting meat, baking puddings, etc. It is obvious that the principle of sealing the bottom of the ovens and bringing the air in at the top to be warmed in its passage down the sides and back must result in considerable economy not only in gas but in the weight of the food cooked.

On the opposite side of the kitchen is a range of four steam-boiling pans of the balanced type, and on the right of this range is a steam stock-pot. The boiling pans are Slaters' usual pattern for boiling soup, meat, broth, rice, etc., and, owing to the ease with which they can be tilted, they can be readily cleaned, the employment of a draw-off cock being avoided.

In the centre of the kitchen is placed a gas-heated plate for all frying and smaller boiling operations, and embodied in this fitting on either side of the central pier are two bain-maries for keeping sauces and gravies properly warmed without overheating them.

Next to the coppers, to the right and on the return wall are three two-compartment steamers for steaming potatoes, fish, puddings, etc.; by the employment of steam at moderate pressure, and expanding this to atmospheric pressure in the steaming chambers themselves, economy is secured; the

steam is drier than in the usual type of wet steam ovens, and no objectionable steam traps are required. As this type of steamer is not a pressure vessel a simple handle and cam motion can be employed for opening the doors, resulting in a saving of time and immunity from danger.

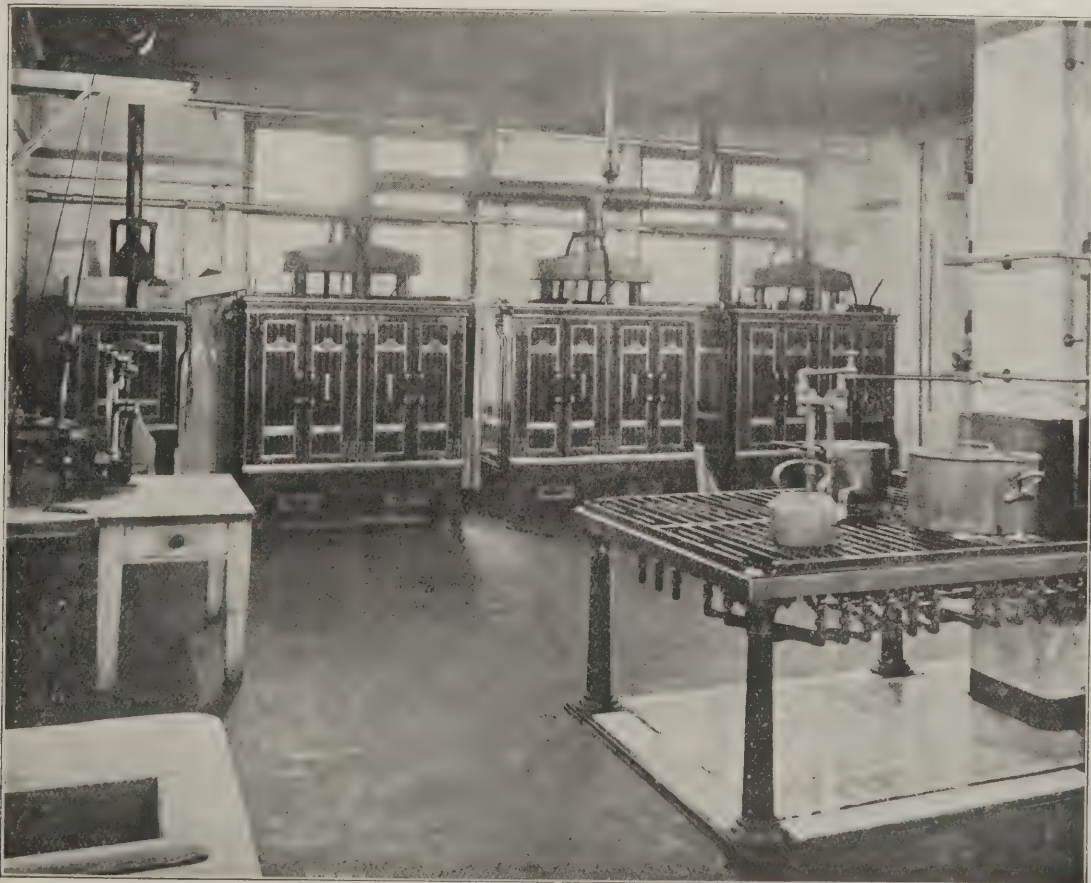
At the far end of the kitchen is the pastry oven of the two-compartment type, made on the regenerative principle and adjacent to this, but separate from it, is the pastry room with a power-driven dough-mixing machine.

The central corridor leads from the far end of the kitchen between the sculleries and the meat stores and larders. The fish store is provided with an ice tank and the necessary sinks and tables for the preparation of the fish so as to avoid having this work done in the kitchen. Next to the fish store is the milk and butter store with a cold cabinet, which is cooled from the refrigerating plant at the far end of the corridor; this plant, which is self-contained and employed only in connection with the kitchen, cools a cold meat store adjacent, which store can be maintained at a temperature of 40 degrees Fahr. in the hottest summer weather.

In the vegetable scullery, besides the ordinary preparation sinks, there is a power-driven vegetable paring machine, and adjacent to the preparation scullery a mincing machine driven by electric power has been provided.

The servery, which is immediately on the right on entering the kitchen, is provided with the necessary steam hot-closet capacity, and the hot-closet is built into the wall at the back so as to leave no interstices for dirt.

To insure the proper delivery of the food from the kitchen to the servery a special opening has been formed fitted with steam-heated shelves. Lifts descend from the servery to the dining-room on the lower floor.



KITCHEN IN CONNECTION WITH THE EDITH CAVELL HOME, LONDON HOSPITAL.



## MODERN MATERIALS FOR RECONSTRUCTION.

*The period of intense building activity now pending coincides with an extraordinary dearth of conventional building materials—particularly bricks and timber—brickyards having mostly ceased production during the war, and huge quantities of timber having been used up for military and other war-time purposes. Yet the work of Reconstruction should be in no way retarded, for architects have to their hand unlimited resources of modern manufactured materials, which are just as good as, frequently are better than, the old-fashioned natural and other varieties. The following survey of the "newer materials of construction" and their associated accessories should be of considerable value and interest to architects, for whose guidance and information it is compiled. It makes no claim to completeness, particulars of several specialities having failed to reach us as we go to press.*

### METAL REINFORCEMENTS, ETC.

#### "Hy-rib."

"Hy-rib" is a metal lath manufactured by the Trussed Concrete Steel Company, Ltd., of Cranley Gardens, South Kensington, London. It is obtainable in three gauges of English steel, and consists of a punched lath bordered by a stiff rib. The width is  $1\frac{1}{2}$  in. and the standard lengths are 6 ft. 8 in., 10 ft., and 12 ft. The rib gives great rigidity—so much, indeed, that when "Hy-rib" is employed for partition work there is no necessity for studding, while for floors and roofs of concrete it serves the dual purpose of reinforcement and centering. The surface of the lath is dead true, and the mesh gives an excellent key with a minimum amount of material. The application of "Hy-rib" is very simple, the sheets being simply set up between the beams and plastered—in the case of hollow walls on the outer face only; in the case of solid walls on both sides. Internal partitions are similarly constructed, the ribs taking the place of studding. Thin, but perfectly rigid, partitions can be formed in this way, the thickness being only about  $1\frac{1}{2}$  in. Such partitions are strong enough to withstand the blows of a sledge-hammer, and are fire-resisting. "Hy-rib" is applicable to all kinds of ceilings and roofs, especially curved forms. It is also very serviceable for bungalows and other houses, sheds, workshops, factories, warehouses, and industrial premises generally, and it is well adapted to more strictly architectural purposes. "Hy-rib" ensures walls and roofs being fire-resisting, water-proof, damp-proof, thoroughly rigid and non-conducting.

#### Expanded Metal.

Expanded metal, as manufactured by the Expanded Metal Company, Ltd., of London and West Hartlepool, has now been in successful and extensive use all over the world for some twenty years past. It is made from sheets of rolled metal of various thicknesses cut and expanded by machinery into meshes of various shapes, each of which is made in several strengths or weights, and all have their own catalogue number for billing purposes. Lathings for Plaster.—The  $\frac{1}{4}$ -in.,  $\frac{3}{8}$ -in., and 7-16-in. mesh lathings, which are made from sheets of rolled steel, are particularly adapted to form a key for plaster in ceilings, steel-work encasing, solid and hollow partitions, exterior walls, and other plasterwork. Reinforcement for Concrete.—Expanded steel sheets in their various meshes and weights, which are also made from sheets of rolled steel, are specially suitable as reinforcement for concrete in foundations, walls, floors, roofs, arches, bridges, grain silos, coal pockets, tanks, reservoirs, dams, retaining walls, piers, abutments, pipes, sewers, conduits, etc., a few weights of the  $\frac{1}{2}$ -in. and 6-in. diamond meshes being occasionally used for such work. The lighter weights of the  $\frac{3}{4}$ -in. and  $1\frac{1}{2}$ -in. diamond meshes are frequently used in concrete for encasing steel-work. Expanded steel bars in their

various sections are specially suitable as reinforcement for concrete in both cast articles and structural work. Made-up Goods.—Practically any of the meshes in their various strengths may be used for open-work partitions, shop divisions, fencing, machinery guards, window guards, tree guards, etc., and the material is often made up into lockers for clothes, tools, etc., waste-paper baskets, letter baskets, and similar articles. The London address is York Mansion, York Street, Westminster.

#### Johnson's Steel Wire Lattice.

There are many distinctive features in Johnson's Steel Wire Lattice that specially commend its use where economical construction is essential. Being made in the form of a complete fabric it dispenses with the trouble of bending, spacing, and fixing independent reinforcing bars. The material can be supplied in lengths up to 200 ft. by widths up to 7 ft., thus reducing to a minimum the wastage due to overlapping, and providing an uninterrupted continuity of reinforcement. The lattice is laid between the supporting beams in camber form, thus providing for the reverse bending moment at supports and eliminating the necessity for independent tension strips. The main tension wires can be made to run either longitudinally or transversely. For concrete floors resting on the subsoil, where special raft construction is not necessary, Johnson's "C" pattern lattice provides a cheap and efficient reinforcement. The use of the "C" pattern lattice is an effective safeguard against the development of cracks. "C" pattern lattice is made up in lengths of 150 ft. and any width up to 6 ft. in three strengths, with tension wires of 9, 10, and 12 I.W.G.

#### "Jhilmil"

"Jhilmil" is a steel lathing made in sheets 72 in. by 24 in. and 72 in. by 18 in. It provides a good key for plaster and is well adapted to use around girders and columns, for ceilings, partitions, and so forth. It is easily cut and fixed in position by a handy man. Partitions can be made quickly and simply by nailing the steel lath to wood studs or battens, which can be spaced at a wider distance than is generally admissible with ordinary wood lathing. Steel lath fixed to light iron supports forms an indestructible solid partition  $1\frac{1}{2}$  to 2 in. thick, besides economising space. Following are some advantages: Reduction in the cost of fire insurances (on account of the material's fireproof qualities), fewer supports (15-in. or 18-in. recommended), and saving of space in thickness of partitions; the readiness with which the steel lath is fixed, saving half the time for labour, besides nails; the roughing or furring coat is entirely saved, and very little plaster is forced to the opposite side, so that half the material besides half the labour in ordinary plaster work is saved; the ease with which large and bold cornices can be formed at a minimum of cost, the steel lath being fixed to strut-

ting at suitable intervals, 15-in. or 18-in. centres. "Jhilmil" is made by Messrs. Haywards Limited, 187 to 201, Union Street, Borough, London, S.E.

#### The Somerville Patent Wall.

The outstanding feature of the Somerville patent wall is that it dispenses with the necessity for shuttering. It can be made thoroughly waterproof, and any reasonable degree of strength can be obtained by increasing either the reinforcement or the width of the internal blocks, or both. The 4-in. wall with 9-in. mesh reinforcement can withstand a vertical load of six tons per foot at a height of 10 ft., or a horizontal pressure equivalent to a moment of 310 ft. lb. per foot. The 6-in. wall will, of course, carry correspondingly more. A good appearance is also easily obtainable. The mesh reinforcement prevents the outer coat from cracking, while the stirrups mechanically prevent any shearing away of the same. When built with hollow internal blocks the maximum of non-conductivity is obtained. The address of Messrs. D. G. Somerville and Co., Ltd., is 120-122, Victoria Street, Westminster, S.W.1.

#### B.R.C. Fabric.

B.R.C. electrically cross-welded steel wire fabric is a reinforcement for concrete slabs and surfaces. It consists of a wire mesh made up of a series of parallel longitudinal wires, held at fixed distances apart by means of transverse wires arranged at right angles to the longitudinal ones, being securely welded to them at the points of contact by a patented electrical process. The wire used is best quality mild steel. The longitudinal wires, which may be of any gauge, are automatically drawn from supply reels through a machine, which accurately spaces them at fixed distances apart. The progress of the longitudinal wires through the machine stops momentarily at definite intervals whilst a single strand of transverse wire is placed across the longitudinal ones at right angles to their length. At each point where the transverse wire crosses the longitudinals, there is then formed an electrical contact which thoroughly fuses the metal of the two wires together. B.R.C. fabric makes an excellent road reinforcement. Asphalte, wood block stone sett, and similar road surfaces are laid on beds of concrete 6 in. or greater thickness. If there are weak spots in the ground below, or even on good ground if the traffic is very heavy the concrete in course of time cracks or sags, and hollows form in the road surface above. The expense of repairing such hollows is a heavy item in the cost of road maintenance, and repaired hollows soon become faulty again. B.R.C. fabric has been largely used, and with very great success, to strengthen the concrete and prevent the occurrence of these hollows. A layer of fabric is placed in the concrete reinforcing it to such an extent that it is



strong enough to bridge over the weak joints. The fabric, being supplied in rolls 10 ft. long and 7 ft. wide, is very easy to lay. B.R.C. reinforcement has been successfully applied also to bunkers, silos, ridges, retaining walls, piers, culverts, sewers, water mains, staircases, pontoons, and barges. It is also used to reinforce brickwork. Reinforced brickwork is in reality a form of reinforced concrete in which the irregular stone aggregate is replaced by regular-shaped aggregate in the form of bricks. The difference in strength between plain brickwork and reinforced brickwork is as great as, if not greater than, that between plain and reinforced concrete, and it is questionable whether local by-laws and regulations applying to plain brickwork can be held to apply to reinforced brickwork without considering the height or length of the brick panel to be the height or length between successive units of reinforcement, and, taking this view, the advantages and economies that accrue from the use of reinforced brickwork may be utilised without reasonable restriction. A reinforced brick wall will withstand horizontal pressure from either side, such as that of the end or of material piled against the wall, and will also, acting as a vertical beam, carry its own weight from pier to pier, or between other similar supports, spaced as far apart as 30 ft. or more, without intermediate support, and will in addition transmit other superimposed loads to such supports. Full information concerning the varieties and uses of B.R.C. reinforcement may be supplied by the British Reinforced Concrete Engineering Co., Ltd., 1, Dickinson Street, Manchester.

#### *Pressed Steel Construction.*

When Pressed Steel Construction takes the place of timber joists, which are very inflammable and deteriorate rapidly, these pressed steel joists are all steel, and therefore fire-resisting; they are more capable to erect than wood and cost very little more. The construction is also fire-proof. The ceiling is made of galvanized lath and plaster. The use of reinforced concrete beams to support the pressed steel floors provides a most economical construction. The only centering required is for the columns and beams. This material is also adapted for studding walls, and the whole structure for small large houses can be rapidly put together. Further particulars of this revolution in building construction will be fully furnished by the Trus-Con Laboratories, 415-418, Bank Chambers, 329, High Holborn, London, W.C.1.

#### CONCRETE BUILDING BLOCKS.

##### *"Winget" Concrete Block System.*

Concrete blocks are being extensively used in housing schemes. They are usually 16 in. by 16 in. by 16 in., or divisions of 32 in. by 16 in. by 16 in., and may be manufactured on the spot, or may be manufactured on the spot by unskilled labour. In their composition a number of easily available materials may be employed. Destructor clinker, furnace slag, brick rubbish, and burnt lime have been successfully used, and in the latter case, when the clay is thoroughly mixed, the result is entirely satisfactory. Concrete blocks give the effective appearance of stonework, and may be made to have any desired kind of texture or pattern of surface, and can be moulded to any desired shape for returns or angles, cornices, sills, jambs, etc., or to form decorative details; consequently, all the work necessary with stonework—quarrying, setting-out, dressing, tooling, and

other expensive operations—are obviated. By this system, cavity walls, as well as air-ducts and flues, are constructed with the minimum of labour. To this end a thoroughly efficient block-making machine is, of course, essential, and for handiness, simplicity of construction, efficiency and general excellence the "Winget" machine offers advantages worthy of attention. Briefly described, the machine consists of a mould box with hinged sides and ends carried in the machine frame hung in trunnions, with cores set inside. When the lever at the right-hand side is pulled down, the bottom of the mould box, which is formed with a loose pallet inserted for each block, is lifted up, and at the same time the sides of the box fall outward leaving the finished block on the pallet ready to be carried off. The method of operating is exceedingly simple. After the leading hand has put a pallet into the machine and reversed the lever, the labourer places the hopper on top of the mould box, and at once commences to shovel in the concrete, the leading hand and assistant at the same time tamping the concrete in the mould box. The mould box having been filled and tamped, the labourer draws off the hopper, screeding the surplus concrete on the floor, and the leading hand levels off the top bed of the block with a float. To prove the speed at which blocks can be manufactured on a "Winget" machine many records are available, showing average outputs over lengthy periods of 1,400 16 in. by 16 in. by 16 in. blocks for each machine per day of ten working hours. "Winget" blocks, if it is claimed, are less expensive and more durable than brick and stone, are fire-resisting, pleasing in appearance, hygienic, vermin-proof, warm in winter and cool in summer, and when the continuous cavity system is adopted, impervious to the weather, no waterproofing rendering being required on the outside. The machine, which is made by Winget, Ltd., 25, Victoria Street, London, S.W., is also adapted for the manufacture of drain-pipes, bricks, and tiles, and it has been used in producing blocks, etc., for the construction of cottages, schools, public halls, hospitals, and other institutions, railway works, reservoirs, etc., in all parts of the world.

##### *"Mack" and "King" Building Blocks, etc.*

These partition and ceiling slabs and blocks are a sound, convenient, and economical means of rapid construction, both for internal and external purposes. Made of breeze concrete and pumice concrete, they may be obtained in several varieties and sizes. The complete manufacturing plant can be sent to any district, and local materials may be used where available. "Mack" partition slabs are made in the following thicknesses: 1½ in., 2 in., 2½ in., 2¾ in., 3 in., and 4 in. (hollow), and keyed for plastering. Blocks: 2 in., 2½ in., and 3 in., smooth both sides, no plastering required. Ceiling slabs: ½ in., ¾ in., 1 in., 1¼ in., and 1½ in. Pugging slabs and blocks from 1 in. to 6 in. Lathing: ⅝ in. and ¾ in. "King" pumice concrete partition slabs are 2 in., 2½ in., and 3 in. thick (solid), and 4 in. thick (hollow or solid). The stock size is 3 ft. long by 1 ft. high. Breeze concrete partition slabs are made to the same size and thicknesses. All are admirable for taking nails and screws. Messrs. J. A. King and Company, the makers, of Bridge House, 181, Queen Victoria Street, London, E.C., besides being specialists in reinforced concrete construction, are also the proprietors of "Ferro-glass," the well known prism light construction for pavements, floors,

roofs, domes, sky-lights, lay lights, lantern lights, partitions, stall-boards, windows, etc.

#### FLOORS AND FLOORINGS.

##### *The Siegwart Floor.*

This floor is composed of a series of hollow reinforced granite-concrete beams, 10 in. wide, depth according to load and span, each beam being made to dead length at the works, and delivered to the site thoroughly matured. The fixing merely consists of hoisting and forming a small joint between the beams. Spans up to 20 ft. centres are covered without the use of steel joists. No timber is required, the labour at the site is very small, and the other trades are not held up owing to centering, propping, and concrete maturing. The address of the Siegwart Fire-proof Floor Company, Ltd., is Thanet House, 231, Strand, London, W.C.

##### *Kleine Patent Floors.*

The Kleine patent system of constructing floors, roofs, etc., by reinforcing either solid or hollow clay bricks was first invented and patented in the year 1892. Bricks were used for floors long before the Kleine system was invented, but brick floors in the past represented a series of arches which, besides taking up much headroom and exercising thrust on the walls, were extremely heavy and in most buildings unsuitable and unsightly. The Kleine invention overcame all these drawbacks, proving that if steel reinforcement were used the arching of the bricks became unnecessary and that perfectly flat level floors could be constructed. For the first floor so built ordinary solid bricks were used, but later hollow bricks were adopted and proved to be fully as strong as any solid bricks. The British patent rights were purchased by the British Kleine Co. (which has no connection with any other company working on the same system) in the year 1905. The use of these floors at the beginning was not large, but gradually the advantages of the hollow bricks were recognised by a large number of architects, and during the last fourteen years the system has made steady progress. The address of the Kleine Patent Fire-Resisting Flooring Syndicate, Ltd., is 133 to 136, High Holborn, London, W.C.1.

##### *"Cullum" Floors.*

"Cullum" fire-resisting floors are formed with perforated blocks, with intermediate ribs of concrete reinforced with steel rods; when laid the blocks where they abut form V-shaped grooves, which are filled with grout, which cannot fall out, and form a solid joint between the blocks. Where square or nearly square bays are to be floored and great strength is required, combined with the minimum of depth, the reinforcement is placed in each direction, giving the maximum strength possible. The blocks are made in depths of 5 in. and 7 in. respectively, and additional thickness where required is obtained by a layer of concrete over the whole surface. These floors are designed on the principle of reinforced concrete construction, the whole of the tension being taken by the steel reinforcements and the compression by the blocks and concrete. A floor constructed of longer blocks has lately been introduced. This floor is of lighter construction than that described above, but can be erected to carry any required load, and is suitable for large spans, the broad principle on which it is designed is the same. Estimates are given free on



application to Horace W. Cullum and Co., Ltd., 92, Fenchurch Street, London, E.C.3.

#### "Decolite" Flooring.

Composition floorings have for their base a magnesia cement—discovered, it is believed, by a French engineer. They were originally manufactured from formulæ which consist mostly of a mixture of the above magnesia cement, with sawdust and other waste materials, which were found under favourable circumstances to form a flooring of exceptional quality. It is found that by the use of special materials, including asbestos, and also by exercising care in the selection and the character of foundations, strength of mixture, etc., a successful flooring is obtained, which is comfortable to the tread, hard wearing, not liable to crack, and also capable of being washed and polished in exactly the same way as a wooden floor. This type of flooring, if laid in a proper manner on suitable foundations and manufactured from carefully selected materials, is ideal for hospitals, factories, barracks, railway carriages, workmen's dwellings, ships' decks, and various other uses. It is thoroughly waterproof, hard wearing, and fire-resisting. "Decolite" flooring is manufactured from specially selected British materials, including asbestos. No waste materials are used. Composition floors have many advantages, the chief being the jointless character of the floor, which can be laid solid with coved skirtings to meet the plaster of tiled dado flush, thus avoiding any angles or crevices where germs and dirt can accumulate. Composition floors are of about the same cost as medium quality wood-block floors. They are free from the defects of expansion and shrinkage due to the use of unseasoned wood, and from dry-rot. Good class composition floors, such as "Decolite," are warm and comfortable to the tread. "Decolite" is very tough and cuts like hard teak; it will also take a screw thread, and has been found to last well under severe shocks. "Decolite," which is manufactured by Bell's United Asbestos Company, Limited, 59, Southwark Street, London, E.C.1, can be laid on most hard, solid surfaces such as concrete, stone, steel, etc. Reinforced it is particularly useful as a fire-resisting covering on wooden floors.

#### SPECIAL ROOFINGS, ETC.

##### "Rok" Roofing, etc.

"Rok" roofing forms a permanent and easily applied roof covering. It can be used instead of slates, tiles, or corrugated iron. It is laid on close-jointed boarding, which should not be less than  $\frac{3}{4}$  in. thick, either plain edged or tongued and grooved. The purlins or rafters should be so spaced that there is no appreciable spring in the boarding. The roofing may be fixed either longitudinally from gable to gable, or vertically from eaves to eaves. It is considered advisable, however, to lay it cross-wise to the boarding. The joints should be formed with at least 2 in. overlap, being stuck together with "Rok" cement, and carefully nailed with tacks not more than 2 in. apart, placed in the centre of the seams. The heads of the tacks where exposed and the outside of the seam should be dressed with "Rok" cement. "Rok" roofing may also be used on concrete roofs fixed with special "Rok" mastic, and it is advisable to write the manufacturers for full directions as to the method of application. It may also be used for covering flats of gutters. Some millions of yards of this roofing have been supplied

during the present war for covering huts and other Government buildings, such as aerodromes, munition factories, etc. D. Anderson and Son, Limited, the manufacturers, are pioneers of the system of roofing known commonly now as "Belfast" roofs. The principle comprises the use of trusses constructed on the circular lattice principle, which makes a light and exceedingly strong roof. The trusses can then be covered with boarding, on purlins, and roofing felt, or galvanised corrugated iron, or asbestos sheets, as preferred. They can be constructed up to 100 ft. span, and are exceedingly economical, especially where large areas require to be covered. Messrs. Anderson and Son's address is Lagan Works, Belfast, Ireland.

##### "Alligator" Roofing.

This roofing is made from the finest long-fibred raw felt, saturated with a special compound, the principal ingredient of which is natural asphalte, upon which a coating of a harder though somewhat similar compound is applied, talc, sand, soapstone, or mica then being put on to prevent any possibility of the rolls sticking. This sand, mica, etc., does not in any way affect the durability of the felt, which is governed by the inner saturation, which does not dry out, but remains perfectly soft and pliable. "Alligator" roofing can be easily laid, and full directions for fixing, together with the necessary mastic and nails, are sent with each consignment. It requires neither top dressing at the time of laying nor annual treatment. It is unaffected by atmospheric conditions, chemical and acid fumes, and is proof against flying sparks and embers. Full particulars may be obtained from the British Roofing Company, Ltd., Tower House, 40, Trinity Square, London, E.C.3

##### "Ruberoid."

"Ruberoid" has for its base a fibrous material chosen on account of its great absorbent and lasting properties, so that it may retain the maximum amount of the saturating compound. This base is thoroughly saturated and then coated with "Ruberoid" compound, which is non-oxidising and unaffected by the action of weather, time, or the fumes of acids or alkalis. The resulting material is pliable, light, flexible, non-absorbent, non-porous, time and weather-proof, and suitable for use in all climates. It contains no paper, tar, rubber, or any other short-lived ingredients which would be liable to oxidise or perish. It is essentially a permanent roofing suited to covering the largest warehouses, factories, residences, and public buildings. Its low cost, however, enables it to be economically used on bungalows, farm buildings, workshops, stables, garages, engine sheds, and so forth. "Ruberoid" has been in practical use in all parts of the world for the past twenty-eight years, and the annual consumption runs into many millions of square yards. During the war the Government found it necessary to control and conserve for work of national importance the entire output of Ruberoid and similar roofings manufactured in Great Britain. In spite of the difficulties in manufacturing during the past four years, the standard of quality and reliability have been fully maintained. "Ruberoid" lends itself admirably to rapid construction. Not only can the material be applied as quickly as the surface is prepared to receive it, but, as all ridge cappings, flashings, gutters, etc., are also worked in "Ruberoid," the delay consequent upon employing different

materials and different tradesmen is eliminated. "Ruberoid" damp-course is a pure bituminous damp-course, and is unaffected by changes of temperature. "Giant Building Papers," manufactured by the same firm, are an excellent water proof underlining for slated, tiled, or asbestos slate or iron roofs. The address of the "Ruberoid" Company, Ltd., is 81-83, Knightrider Street, Queen Victoria Street, London, E.C.4.

##### "Poilite."

"Poilite" asbestos cement tiles, corrugated roofing sheets, and flat building sheets are supplied in various sizes and patterns. The tiles for diagonal fixing are durable, impervious, weather-proof, fire-resisting, non-conductive, and indestructible by acid fumes. Their lightness allows of economy in roof framework construction. The accessories used for fixing are  $1\frac{1}{4}$ -in. galvanised or copper nails, one for each tile, and copper disc rivets, one each for securing the lower point of the tile. Ridging is supplied in two sections, half-round and half-round and moulded. The ridging is fixed with 3-in. galvanised screws and "limpet" washers. Ordinary clay ridges may also be satisfactorily used with "Poilite" tiling. Roman type tiles are manufactured to order for use in the United Kingdom only. These are admirably adapted for the roofs of factory buildings, railway sheds, etc., having a pitch of 30 deg. or over. They are fixed to timber and steel roofs respectively with 3-in. galvanised screws and hookbolts in conjunction with "limpet" washers, two screws and hookbolts to each tile. A special form of ridging, half-round in section, is supplied for use with this type of tile. Corrugated roofing sheets supply a strong and permanent covering, requiring no painting or treatment of any kind. These sheets possess all the advantages of "Poilite" tiles combined with great covering capacity and admit of rapid fixing, and economy in the construction of the roof framework. The flat building sheets are suitable for external and internal wall and ceiling linings. They are rapidly fixed to wood framing with  $1\frac{1}{4}$ -in. galvanised nails driven direct with a hammer, and may be cut to any required size with a saw. More than 170,000,000 of sq. ft. of these sheets have been supplied to the various Government Departments for the walls and ceilings of barracks, hospitals, aerodromes, munition factories, etc. Full particulars of sizes and methods of fixing may be obtained from Messrs. Bell's United Asbestos Co., Ltd., Southwark Street, London, S.E.

##### "Fibrent."

"Fibrent," the registered trademark for asbestos cement sheets and slates (manufactured only in England), hitherto termed "Fibro-cement," is a form of concrete reinforced cement, the mineral fibres for filling this function of reinforcement. The cement used is the highest grade British Portland, and the fibre is asbestos of the best quality specially selected for the purpose. This substance, when manufactured in the form of roofing slates, is of such compactness that absorption is reduced to approximately one quarter of the weight of water which an ordinary sand-faced roofing tile of good quality and of the same volume would absorb. With exposure to the weather the material becomes absolutely impervious. There is no condensation on the under side of these slates when fixed to a roof, the material being non-conductive of heat or cold, fire-resisting



the highest degree, and of extreme durability. High resistance to mechanical strain is another marked quality of this material, which possesses also very considerable elasticity, with absolute immunity from cracking under frost or other extremes of temperature. The slates are very light, their weight when fixed being about 20 lb. to the square yard, thus assisting in great economy in roofing construction, as the rafters may be centred at 4 in., the slates being securely fixed at all corners to light battens, or direct to squared and grooved or rough boarding. The slates are made in standard sizes of 15 $\frac{3}{4}$  in. by 15 $\frac{3}{4}$  in. and 24 in. by 24 in., the diagonal or honeycomb pattern. They are also made in smaller sizes, i.e., 12 in. by 12 in. and 7 $\frac{3}{8}$  in. by 7 $\frac{3}{8}$  in., the normal slate supplied being the 15 $\frac{3}{4}$ -in. diagonal unless otherwise ordered. Corrugated asbestos cement sheeting and flat sheets are also manufactured on the principle above described, and are obtainable in a variety of sizes and thicknesses. The address of the British Fibrocement Co. is Wrotham, Kent.

#### "Uralite."

"Uralite" is in extensive use for the construction of temporary as well as more permanent buildings. Innumerable buildings have been almost entirely constructed of this material, which is supplied in sheets up to 6 ft. by 3 ft., and of several thicknesses, from 7-64-in. to  $\frac{1}{2}$ -in. Consisting of asbestos fibre, cemented by a mineral glue, it is superlatively fire-resisting, is unaffected by damp, gases, or acids, does not warp, crack, or shrink, and is a non-conductor of heat. It is easily and readily fixed to wood or steel framework, and can be had in white, red, or grey. It is largely used by Government Departments and public authorities. It is manufactured by the British Uralite Co., Ltd., 85, Gresham Street, London, E.C.

#### "Vulcanite" Specialities.

The name of Vulcanite, Ltd., is identified with a notable range of specialities which have acquired a standard reputation in connection with roofing, sarking, and dampcourse work, and practically all applications of asphalt, bitumen, felt, etc., in constructional and protective purposes. "Vulcanite" roofing is a roof-covering consisting of several layers of sheet asphalt, combined with "Vulcanite" composition, and applied in a liquid state (boiling), thus making the whole roof surface one seamless, jointless sheet, impervious to water. Low prime cost, both as regards the actual price of the roofing and the preparation for same, is one of the strong commendations of this material and of the methods of application. "Vulcanite" sheet asphalt is specially prepared for roofing and sarking. It retains its flexibility; is easily applied by anybody; has the advantage of low prime cost; and is an excellent covering for all light roofs. Two other roofing specialities are "Leatherite" roofing felts (which are preferred by some because they are lighter than the sanded Vulcanite sheet asphalt); and the cork roofing felt for insulating, this latter being Vulcanite sheeting covered with granulated cork, and forming an excellent non-conductor for sarking. Rexilite roofing is a pure bitumen sheeting, which can be applied by contractors' own men, thus saving the cost of special labour. It makes an economical roof-covering for concrete roofs, and for sloping roofs of light buildings. The finish is practically smooth, extra covering being necessary. "Vulcanite" bitumen sheetings and "Vul-

canite" waterproof sheetings are compressed sarking felts, the bitumen sheetings being inodorous. Both derive a distinct advantage from their compressed and compact fabric, whereby the accumulation of dust and vermin, so common to hair felts, is avoided. For damp-proof course "Vulcanite" sheet asphalt, prepared for the purpose under the "P.V." brand, is well adapted. Its prime cost is low; and it is durable and impervious to moisture. Other specialities, which we have no space to describe in detail, include "Reliance" dampcourse, "Bituna" and "Rexilite" pure bitumen sheeting, "Standard" asphalt, "Mailon" non-inflammable bitumen solution, bitumen bridge asphalt, bitumen compounds, and "Vulcanite" carpet felt. Full particulars of all specialities may be had from Vulcanite, Ltd., 118, Cannon Street, London, E.C.4.

#### "Lion" Roofing.

This roofing is composed of the highest quality long-fibred felt, thoroughly saturated and impregnated with natural asphalt and surfaced with a harder, though similar, compound of remarkable tenacity and elasticity. The asphalt adopted have been extensively used by the manufacturers for many years and have been subjected to exhaustive tests. They are refined from the crude materials under the supervision of skilled chemists, and are manipulated and combined to withstand the stress of the severest weather. Under any conditions of cold or heat they will not crack nor run. "Lion" roofing is sold in rolls of 72 ft. long by 36 in. wide, i.e., 216 ft. super., or 21.92 metres  $\times$  91 centimetres = 20 sq. metres, and the necessary nails for fixing, and special mastic or cement for seaming joints and coating nail-heads, are included with each roll. Full instructions with regard to fixing and other information may be had on application to the makers, F. McNeill and Co., Ltd., of Spencer House, 4, South Place, Finsbury Pavement, London, E.C.2, who will be glad to supply particulars of their many varieties of roofing and other felts. During the war the whole output has been requisitioned by the British and Allied Governments, but the company anticipates being shortly in a position to supply all home requirements.

### BUILDING BOARDS.

#### Beaver Board.

Beaver Board is made of pure wood fibre. Its advantages are as follows: It is sanitary, does not crack, chip, or disintegrate; is a non-conductor of heat, cold, and sound. It takes decoration admirably and is inexpensive, its first cost being the only cost. The board is heavily treated with a special preparation of size during manufacture, the backs of the panels being double-sized. It is moisture-proof, and withstands extremes of atmospheric conditions. Durable and rigid, it is as firm as any wood panel. Being already sized, Beaver Board requires no further treatment in preparation for decoration, and in many cases no priming coat is necessary, time and labour when decorating thus being saved. For rapid construction Beaver Board offers exceptional advantages, involving only the minimum amount of labour in fixing. An average man can put up between 300 and 400 square feet of panels in one day. Furthermore, immediately the panels are in position and decorated the building is ready for habitation. Beaver Board has been used on many Government contracts during the

past four years. The address of the Beaver Board Company, Ltd., is 4, Southampton Row, London, W.C.1.

#### "Calno."

Lath and plaster both for ceilings and walls can be dispensed with by the use of "Calno," which is a fire-resisting wall board, manufactured from chemically treated fibre, bound by a special cement into smooth, tough sheets of convenient size. Among its advantages are the following: It does not crack nor split, and is consequently unaffected by vibration. It is easily and rapidly fixed, and requires no time for drying out. It is a non-conductor of heat, cold, and sound, and is very tough, having a tensile strength of about 300 lbs. to the square inch. It can be sawn, cut, and nailed without damage or fracture. The best method of fixing is by means of a panelling strip over the joints between the sheets. Paint or distemper completes the decoration, paper being unnecessary. "Calno" provides a perfectly hygienic interior lining, as no harbouring places are formed for vermin or germs. Indeed, the materials with which the board is impregnated are unpalatable to these pests. "Calno" has been tested by the British Fire Prevention Committee, and granted the certificate also of the Institute of Hygiene. As it is made in Britain shipping difficulties have no effect on its supply, and it will no doubt soon be available in very large quantities for the purposes of reconstruction. Samples and full particulars will be sent on application to the manufacturers, Thames Mills, Purfleet, Essex.

#### "Fiberlic."

"Fiberlic" board for panelling and decoration is made from a fibrous root of remarkable toughness and strength. It is not a pulp board, and is not soft and spongy. It supersedes lath and plaster, and can be erected by any intelligent artisan or handy man, thus saving the cost of skilled labour. An advantage is that it can be painted or coloured at once: there is no moisture to dry out, as in plaster. The manufacturers of "Fiberlic," Messrs. Macandrews and Forbes, Ltd., 2, Broad Street Place, London, E.C.2, claim that it is highly fire-resisting, damp-resisting, and sound-deadening, will neither warp nor crack, is a non-conductor of heat or cold, besides being sanitary and vermin-proof.

### WATERPROOFING COMPOUNDS.

#### "Pudlo."

"Pudlo" makes cement water resistant for the following principal reasons: (1) A chemical action is set up which combines the "Pudlo" and the cement grains. This siliceous oleate spreads and completely fills every space, even the most minute void. (2) During the drying process the modified "Pudlo" expands and forces some of its essence outwards. This covers the surface of the cement work with an impervious film, the thickness of which varies according to the percentage of "Pudlo" employed. (3) A distinction in Pudloed cement mixtures is that the granules of cement and also the aggregates are more densely packed together than they are in ordinary cement work, thereby more thoroughly excluding water. They are, as it were, lubricated into position. "Pudlo," which has been thoroughly tested by many eminent authorities, is suitable for use wherever and for whatever purpose cement is employed, whether in building or elsewhere. It will remedy defective damp-courses, flooded cells, leaking tanks, etc., walls damped



by earth, and so forth, and it definitely prevents efflorescence on cement work, rising dampness under wood floors, the sewage pollution of wells. It is widely used for waterproofing cement concrete blocks and all structures built with non-waterproofed blocks.

#### "Prufit."

"Prufit" waterproofer for cement and concrete, manufactured under licence from the Board of Trade by Messrs. Rogers, Welch, and Co., Ltd., Phipps Bridge, Merton, since 1915, is the successor to "Ceresit," which was of German origin. "Prufit" is identical with "Ceresit," and Rogers, Welch have been authorised by the Board of Trade to use the word "Ceresit." As they are a British firm they prefer to give their production a new name. "Prufit" is in paste form, and readily becomes mixed with the water which is required for mixing cement, thus ensuring the waterproofing agent suspended in the water becoming uniformly distributed throughout the whole mass. "Prufit" is a simply applied waterproofer for cement, and the saving in labour resulting from its use is a considerable item apart from its initial cost, which is very low. It has been used in the Rosyth Housing Scheme, Foleshill munition factories, etc., and various other large Government contracts, with very satisfactory results. Messrs. Rogers, Welch, and Co., Ltd., of 26, Page Street, Westminster, are the manufacturers.

#### "Ironite."

"Ironite" is a fine partially metallic powder for waterproofing cement, bricks, concrete, wood, tunnels, reservoirs, tanks, etc., and all classes of buildings. It is sold in tins ready for use—only requiring to be mixed with water. It is applied quite simply with a brush and becomes incorporated with the cement or brick surface, rendering the whole permanently waterproof. "Ironite" flooring, an allied preparation, is designed to be mixed with cement and sand for the floor topping. In the process of setting, and by reason of the chemical action which takes place, the particles of "Ironite" flooring not only expand and tightly seal the pores and interstices, but also bond the surrounding particles firmly together. This manner of topping produces a floor that, in addition to being impenetrable and non-absorbent, is as near to being wear-proof as possible. Full instructions with regard to the application of these materials may be obtained from the Ironite Company, Ltd., 11, Old Queen Street, Westminster, London, S.W.1.

#### "Aquarep."

It is claimed that "Aquarep" damp-proofing composition (paste form) when dissolved in water in proportions of one to twelve, will render concrete, brick, and cement structures, permanently waterproof at a very small increase in cost to the actual outlay of structure. Full particulars may be obtained from Damp-Proofing, Ltd., Dashwood House, New Broad Street, London, E.C.2.

#### Trus-Con Waterproofing Paste.

This material, manufactured by the Trus-Con Laboratories, of Bank Chambers, 329, High Holborn, has been on the market with uniform success for over twelve years, and was the outcome of a series of investigations and experiments covering a long period, the result being the production of a concentrated colloidal paste, entirely free from inert fillers. This concentrated form enables the very smallest percentage to effect the perfect

waterproofing of concrete or cement plaster. The material, a special insoluble soap, in the process of manufacture is rendered soluble until carried through the structure by the agency of water. This fact alone is of the utmost importance, as effectual waterproofing is only possible where the material is distributed uniformly, and this can only be done through the agency of the water used in gauging the concrete or cement plaster.

### MISCELLANEOUS.

#### Damp-proof Coursing.

As rapidity of construction applies to the foundations as well as to the fabric, damp-proof coursing material that can be laid with the utmost speed may be usefully indicated. Messrs. George M. Callender and Co., Ltd., of 25, Victoria Street, Westminster, S.W.1, supply pure bitumen in roll form, each roll containing 24 ft. of the material, cut to the usual wall widths from 4½ in. up to 36 in. The material can be handled by unskilled workmen if necessary, as it simply requires to be unrolled on to the foundations, a small lap joint being made at the end of each length. It is not necessary to seal the joint, as the weight of the next course of bricks is quite sufficient to keep the damp-course in position.

#### Paints, Colours, etc.

Simplicity being the dominant note of Reconstruction, it follows that there must be excellent opportunities for all commodities that are economical of cost and labour. In the matter of decoration, for example, preference is bound to be given to those media which can be rapidly applied and yet produce satisfactory æsthetic effects. Paints, enamels, and distempers are likely to be used far more extensively than in the past for many of the decorative effects which formerly were fashioned in the solid. Some useful practical hints with regard to colour schemes in distemper are given in a pamphlet issued by Sissons Brothers and Co., Ltd., of Hull, the manufacturers of Hall's Sanitary Distemper and many other decorative specialities. In selecting colours for the various rooms, the colour of the upholstery and hangings should be borne in mind. Taking first the dining-room, or any much-used room, it is well to have the woodwork dark, in keeping with the usual furniture—a fairly dark red, green, grey, or claret colour for the wall. The colour of the frieze might depend on the usual amount of light in the room. If the room is not well lighted the frieze should be kept on the light side (and here it might be remarked that a good deal can be done to lighten a dark room if the walls are kept light). Drawing Room: Light colours and woodwork finished with "Sisco" white japan are particularly appropriate, fitting in as they do with the delicate forms of the furniture. Creams and yellows seem to bring some of the outside sunshine into the room. Blues should not be used except for a very small room, and the frieze might be then made to correct the cold effect, for most other colours, cream, flesh colour, or white, lead the eye up to the ceiling without violence or too much emphasis. Bedroom: Cleanliness of appearance is most attractive in a bedroom and white woodwork, as suggested for the drawing-room, and white friezes give the desired effect. Messrs. Sissons Brothers and Co. manufacture, in addition to Hall's Sanitary Distemper, paints ground in oil, dry colours, colours ground in turps, paints (ready mixed for use), bright gloss paints, varnish paints, anti-corrosive paints, roofing paint, ships'

funnel paints, finest oil colours, oil varnish stains, "Rustikol" wood preservative, and various other specialities.

#### Gas Cooking and Heating Stoves for Small Houses.

The gas cooking and heating equipment of small houses is necessarily on a modest scale. Messrs. Fletcher, Russell, and Co., Ltd., of 15-16, Fisher Street, Southampton Row, London, W.C.1, who have given close attention to this particular aspect of the housing problem, consider that the minimum equipment should include (1) a cooking range on stand, (2) a wash-boiler, (3) a hot-water circulator, and (4) a fire in the bedroom. Following are particulars of suitable apparatus: (1) The "Lanca" No. 3 Cooker comprises oven (double cased), packed with slag wool and fitted with fixed sheet enamelled linings and swing-out shelf rests. Sizes overall: 21 in. wide by 28 in. high by 18 in. deep; stand, 12 in. high. (2) "Lune" pattern gas-heated boiler. (3) The "Reliance" circulating boiler. Sizes overall: 12½ in. wide by 15 in. high by 20 in. back to front. (4) The "Dove" No. 2 gas fire. Sizes overall: 19 in. wide by 28 in. high by 6½ in. deep; fire opening: 10 in. Fuller details may be obtained on application to Messrs. Fletcher, Russell and Co., Ltd.

#### Glazed Bricks.

The use of glazed bricks in connection with cottage property has been principally confined to fireplaces and to piers and surrounds for kitchen sinks. A simple design of fireplace in salt-glazed or coloured glazed bricks is sometimes preferred to the ordinary cast-iron or wood fireplace, and there are undoubted advantages in it from the point of view of radiation. In consequence of the shortage of building bricks and other materials, it may be considered desirable in some cases to line the sculleries and larders throughout with glazed bricks such as those manufactured by the Leeds Fireclay Co., Ltd., of Wortley, Leeds. Glazed bricks have occasionally been used for string courses and ornamental features in the exterior walls of cottages. This practice may not commend itself to architects from the æsthetic point of view, yet those who are building in the neighbourhood of glazed brick works may welcome an opportunity of using old stocks of glazed bricks in order to compensate for the dearth of other materials.

#### Trus-Con Floor Hardener and "Agatex."

Trus-Con floor hardener is a metallic compound which is floated into the surface of cement finished floors, rendering them wearproof, and adding indefinitely to their life. Every factory owner knows the trouble and insanitary conditions which arise from concrete floors which wear unevenly, leaving depressions and holes filled with water, oil, etc., and the wear and tear and loss of work in trucking, etc. This material is appropriate for use wherever heavy wear is anticipated, or where greases and fatty acids are present, as in packing houses, heavy machine tool factories, and also in domestic houses in kitchens and sculleries. For floors that are already existing and are giving trouble due to dusting the Trus-Con Laboratories have formulated a material known as Agatex, which if applied in time completely corrects this fault and prevents further disintegration. Besides the products briefly described above, the Trus-Con Laboratories of 415-418, Bank Chambers, 329, High Holborn, London, W.C.1, manufacture a large range of technical paints, varnishes, and roofing materials, etc.

THE GOVERNMENT HOUSING  
SCHEME

CARRIED OUT AT  
MANCOT, NEAR CHESTER

PLANS, SECTIONS, ELEVATIONS,  
AND PHOTOGRAPHIC VIEWS.

*SPECIAL SUPPLEMENT*

TO

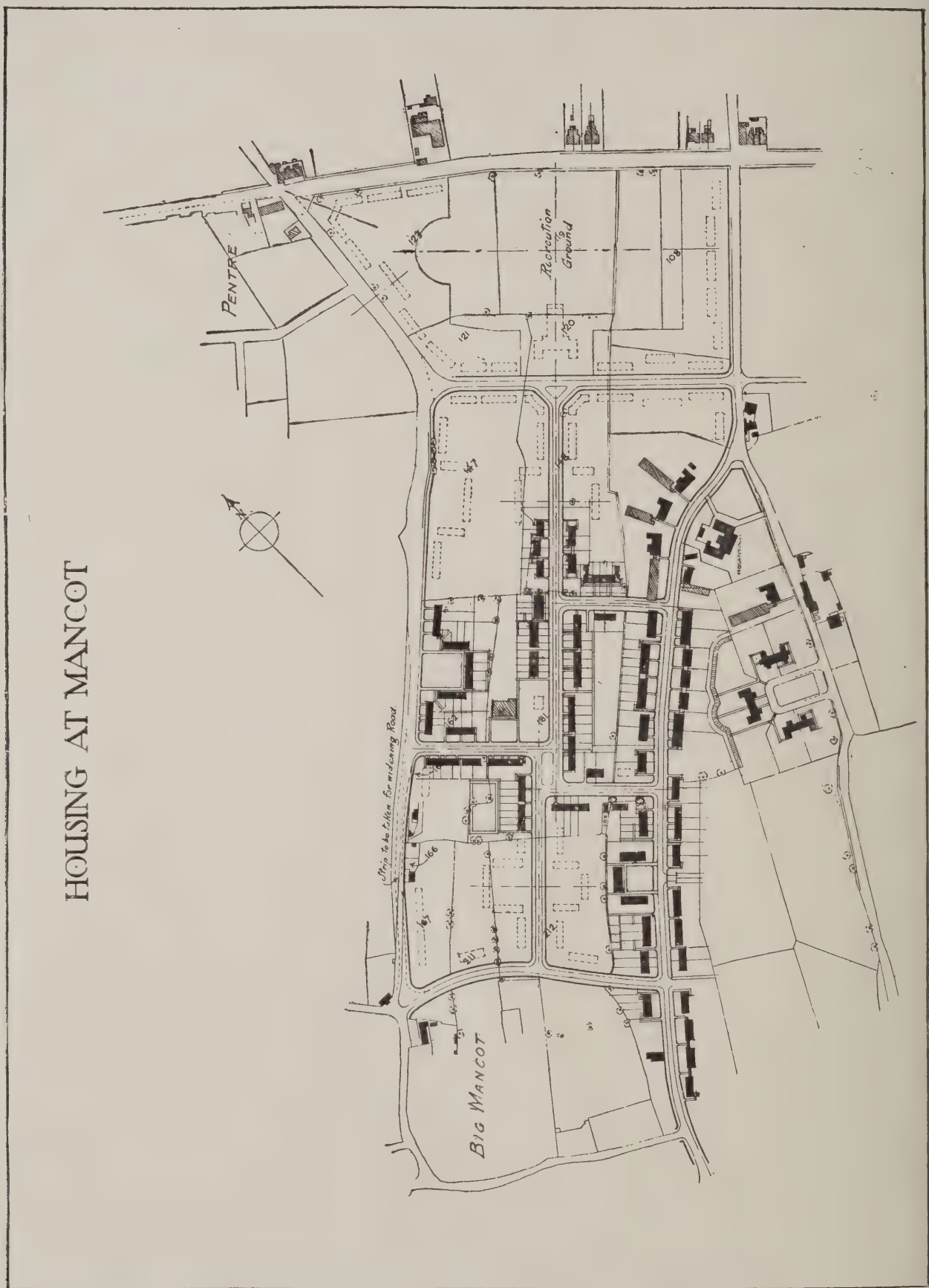
THE ARCHITECTS' AND  
BUILDERS' JOURNAL,

*WEDNESDAY, DECEMBER 25, 1918.*

TECHNICAL JOURNALS, LIMITED,

27-29, TOTHILL ST., WESTMINSTER, LONDON, S.W.1.





HOUSING AT MANCOT

GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER: GENERAL PLAN.

## INTRODUCTORY NOTE.

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THE site of this Housing Scheme is in the Hawarden Rural District Area. The ground rises gently from the main road on the south-east, to the south-west end of the site, whence it continues rather steeply to the Hawarden Village. The new road through Mancot provides an alternative and more direct route from Hawarden to the main road.

Nearly 200 houses are provided for assistant superintendents and other officials, foremen, selected workers, and police, all of whom it is desirable to house near the factory with which this scheme is connected. The main body of operatives come from Chester, and the districts surrounding the factory, by train and motor buses, and housing is not provided for them.

The scheme includes a hospital, fire station, co-operative stores, and a temporary church pending the erection of a permanent one.

The superintendent has occupied an existing house within the factory area, and separate houses for firemen are built there. Hostel accommodation is provided for eighty-four of the staff; and the women police, who have proved of valuable service in connection with the large number of women workers, are also housed in hostels, which are arranged for subsequent conversion into cottages.

The plans of the houses are adapted to their positions and aspects, and those that face north-east are provided with a through living-room to obtain sunshine from the back.

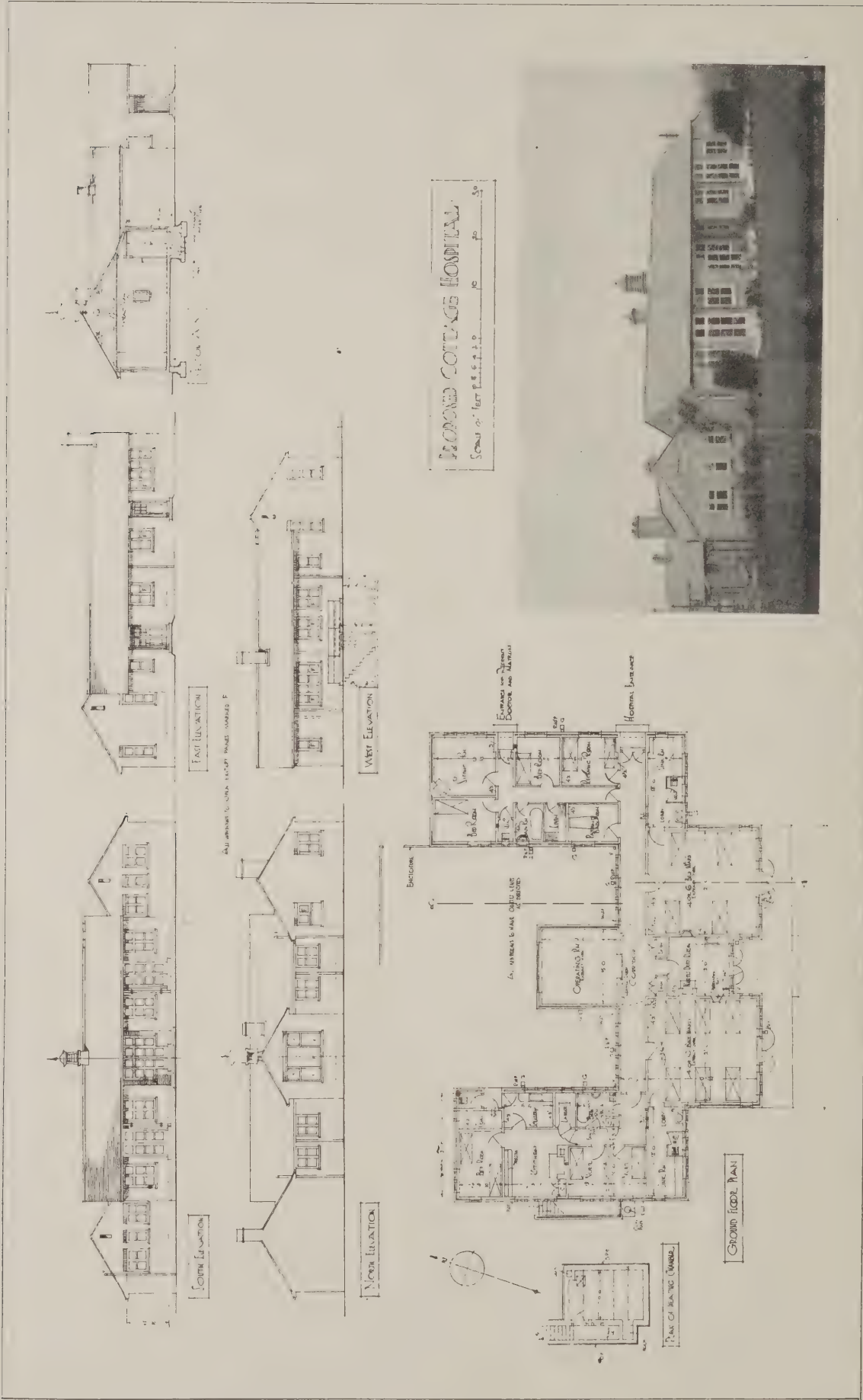
Owing to war exigencies the scheme has not yet been carried to completion, but provision for social, recreative, and educational requirements will form part of the full development.

All trees existing on the area have been preserved, and, in addition, planting has been or will be carried out in the various new roads, more particularly Hawarden Way, which before many years will form a shady and attractive avenue.

The buildings have been carried out in a local light-red brick, with wide mortar joints, and the roofs are covered with thick grey Welsh slates. The windows are double-hung sashes in the larger houses, and wood casements in the cottages; economy of labour, and therefore great simplicity of design, were necessary owing to war-time conditions.

The work has been carried out by Messrs. John Mayers, Sons, and Co., Ltd., of Chester, and by Messrs. Holland and Hannen and Cubitts, of London, under the direction of Mr. Theodore Fyfe, F.R.I.B.A., who has acted as resident architect. The designs were made by a group of architects, under the general direction of Mr. Raymond Unwin, F.R.I.B.A., Director of the Housing Branch of the Ministry of Munitions in the Department of Explosives Supplies, and of Mr. S. B. Russell, F.R.I.B.A., who acted as chief assistant architect.





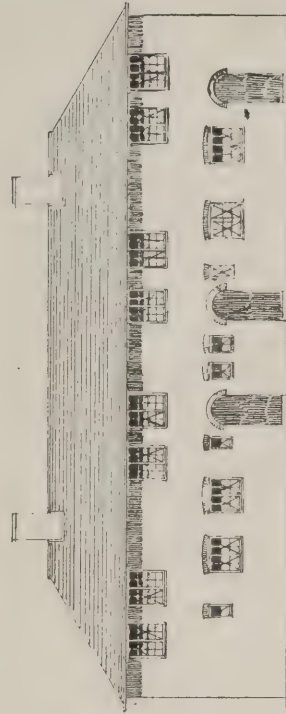
GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER: THE COTTAGE HOSPITAL.

MINISTRY of MUNITIONS of WAR:

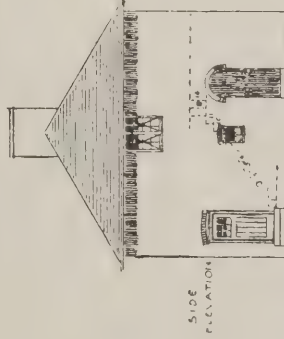
TYPE-  
VA



FRONT ELEVATION



BACK ELEVATION



SIDE ELEVATION

PLANS TO BE USED  
WHEN FACING SOUTH

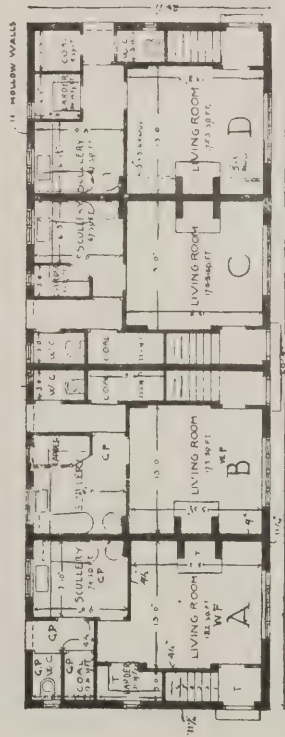
D	C	C	D
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FACING SOUTH EAST

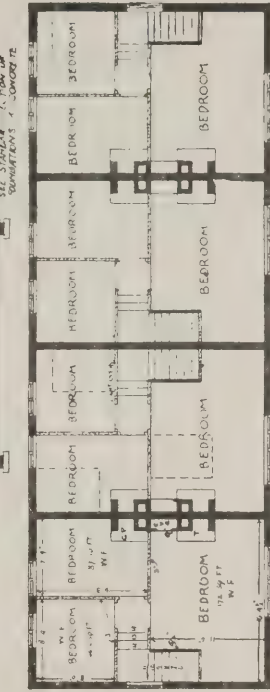
D	C	C	A
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FACING SOUTH WEST

A	C	C	D
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GROUND FLOOR PLAN

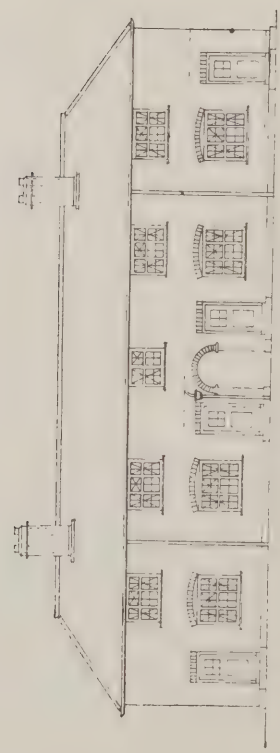


FIRST FLOOR PLAN

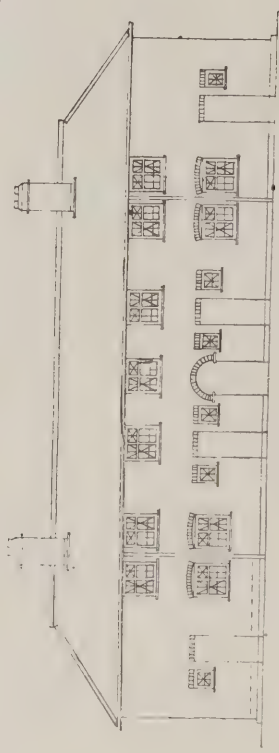
GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.



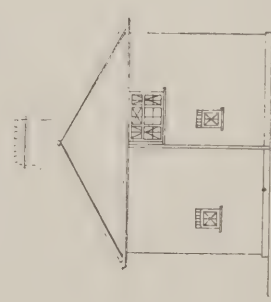
TYPE VC



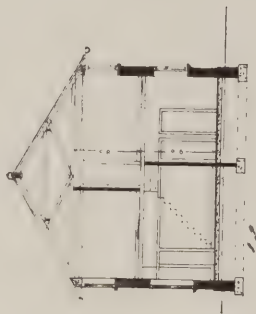
FRONT ELEVATION



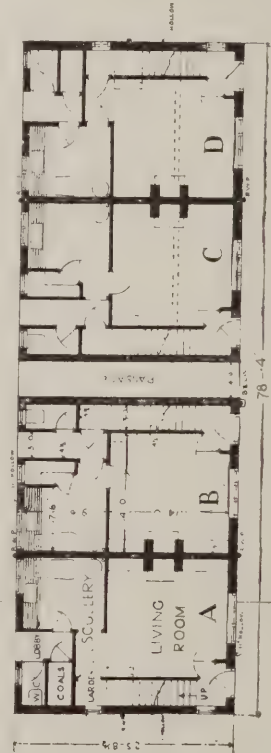
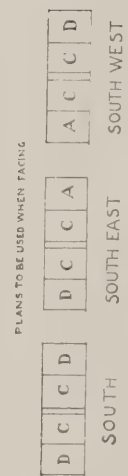
BACK ELEVATION



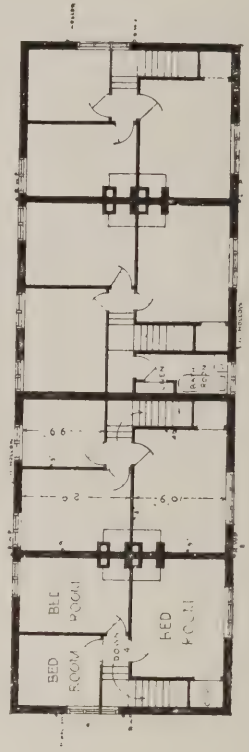
END ELEVATION



SECTION A B



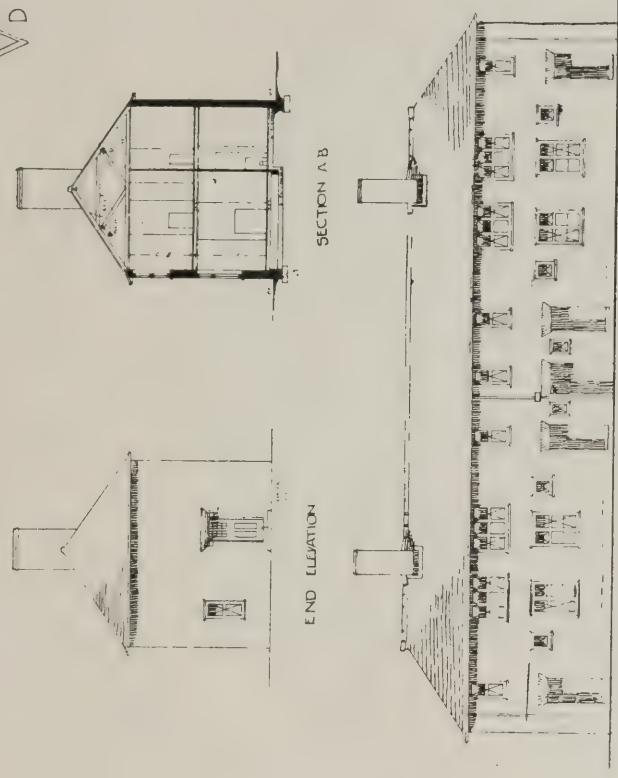
GROUND PLAN



FIRST FLOOR PLAN

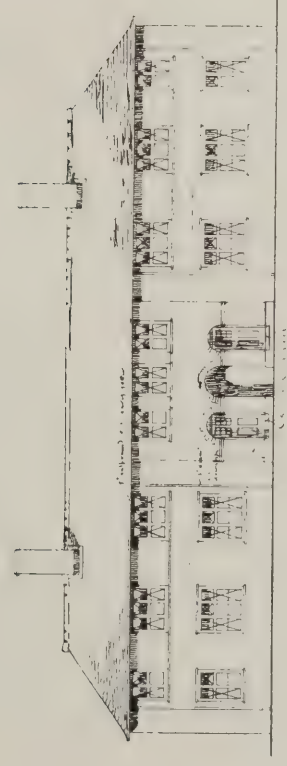
MINISTRY OF MUNITIONS OF WAR

TYPE  
V  
D



END ELEVATION

SECTION A-B

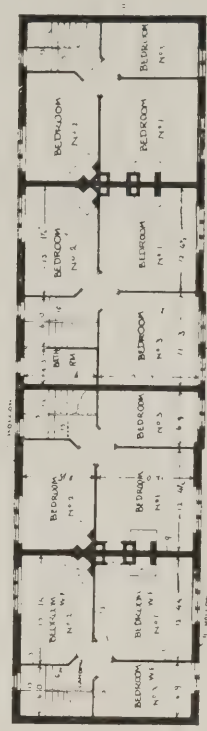


FRONT ELEVATION

BACK ELEVATION



GROUND FLOOR PLAN



BEDROOM PLAN

GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.

(Houses of the above type are shown in the upper view on page 18.)



TYPE V<sup>B</sup>. Revised.  
and VI<sup>D</sup>



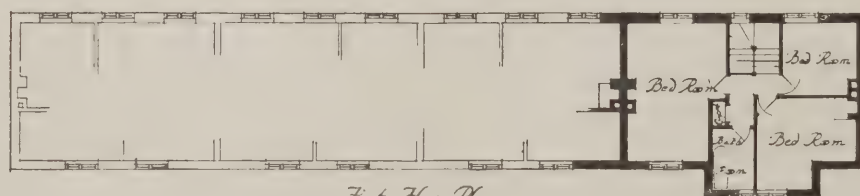
*Back Elevation.*



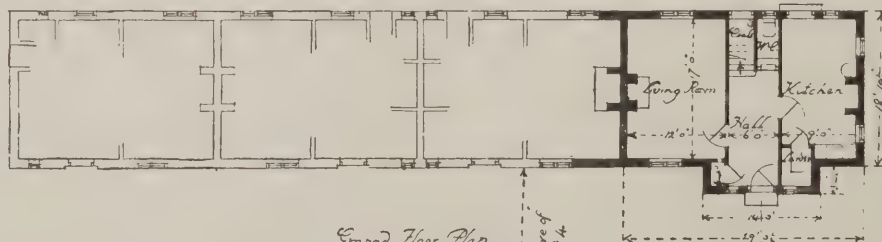
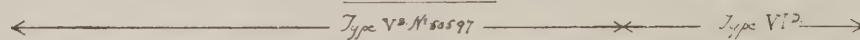
*Front Elevation.*



*End Elevation.*



*First Floor Plan*



*Ground Floor Plan*

GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.

(For photograph of above see opposite.)



*(For drawings of above see opposite page.)*



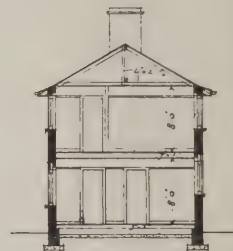
GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.



TYPE V<sup>B</sup>. Revised.



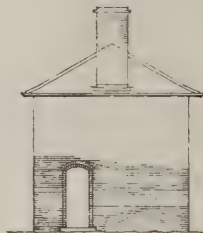
*Front Elevation*



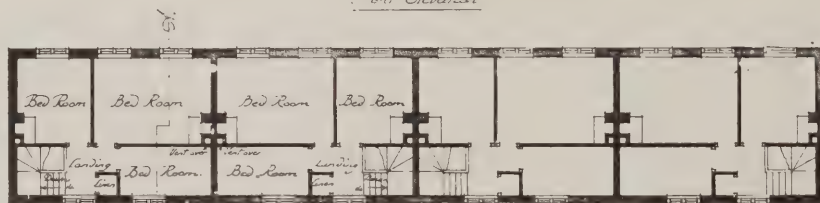
*Section A-A*



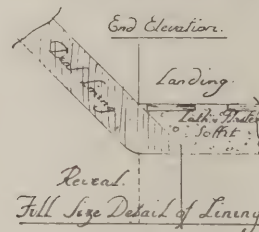
*Side Elevation*



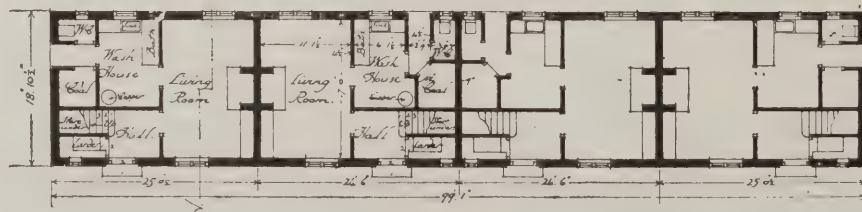
*End Elevation*



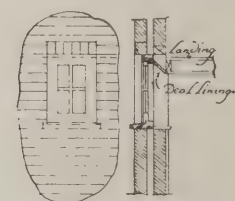
*First Floor Plan*



*Reveal Full Size Detail of Landing*



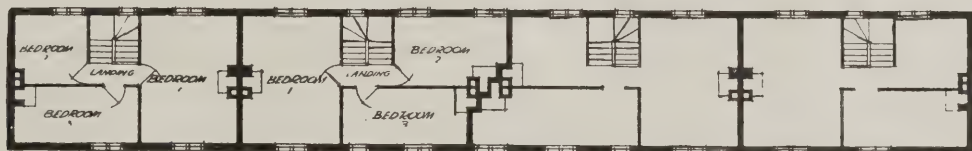
*Ground Floor Plan*



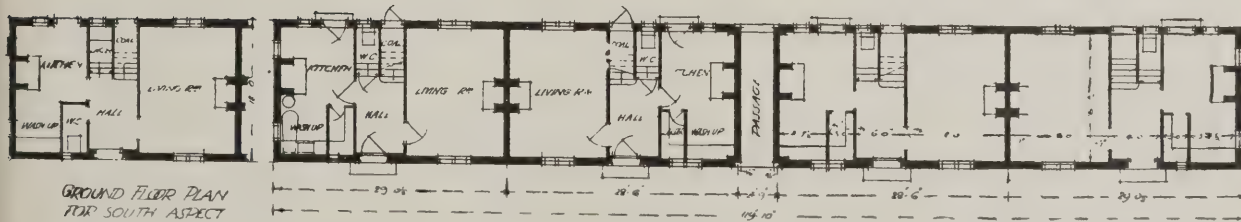
*Detail showing Landing Window in relation to Stair Landing*

GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER

TYPE VI



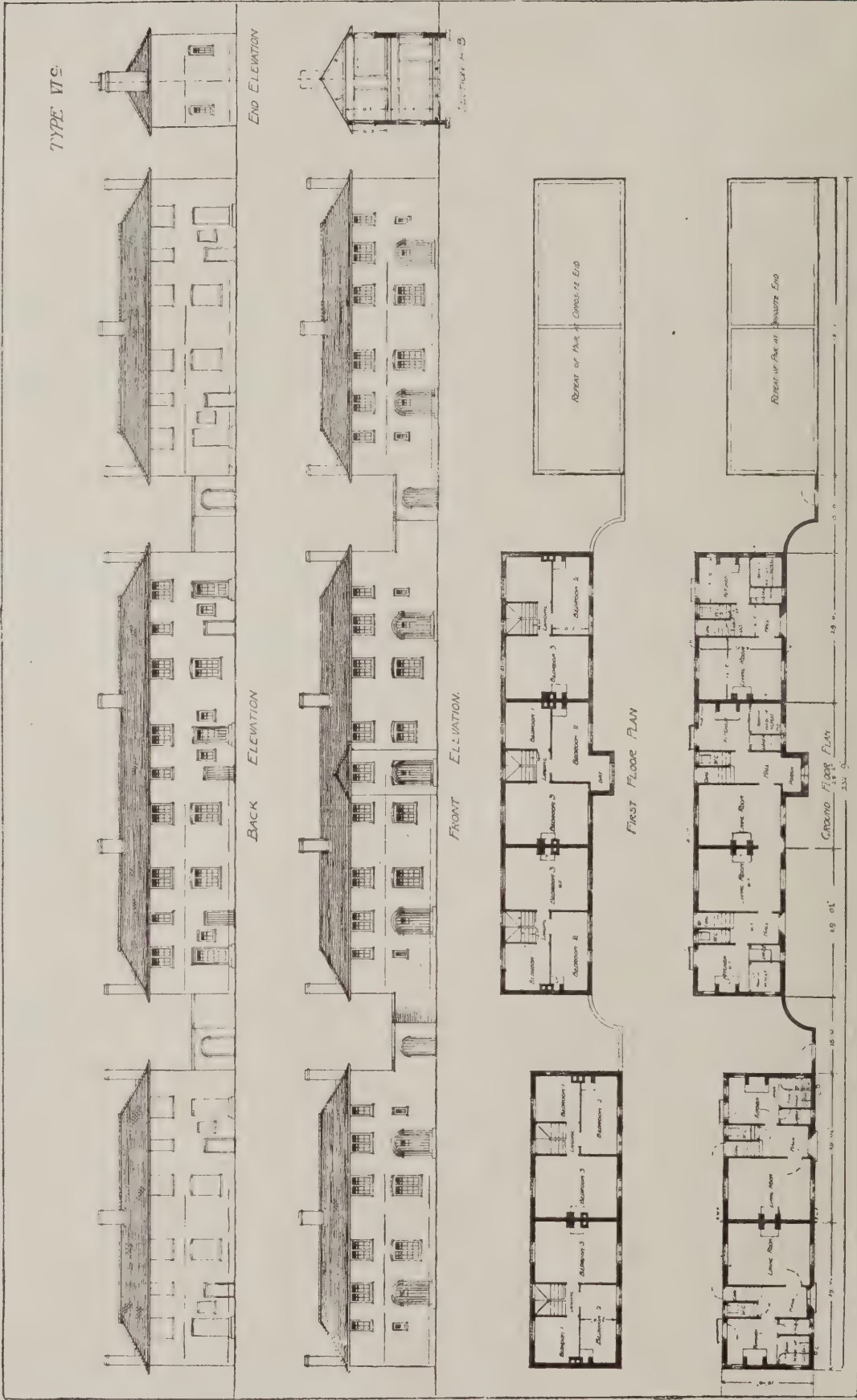
FIRST FLOOR PLAN



GROUND FLOOR PLAN

GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.





GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.



*(Drawings of some of the above houses are shown on pages 7 and 20.)*



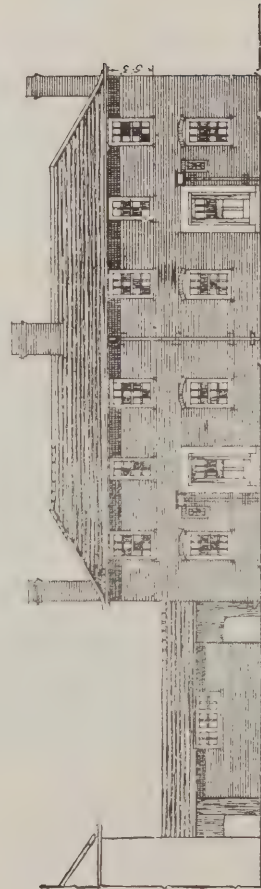
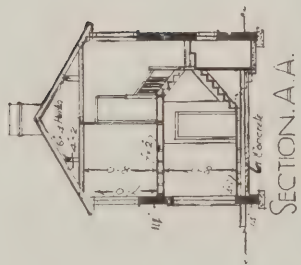
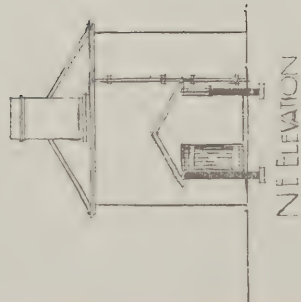
GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.

*(Drawings of above houses are shown opposite.)*



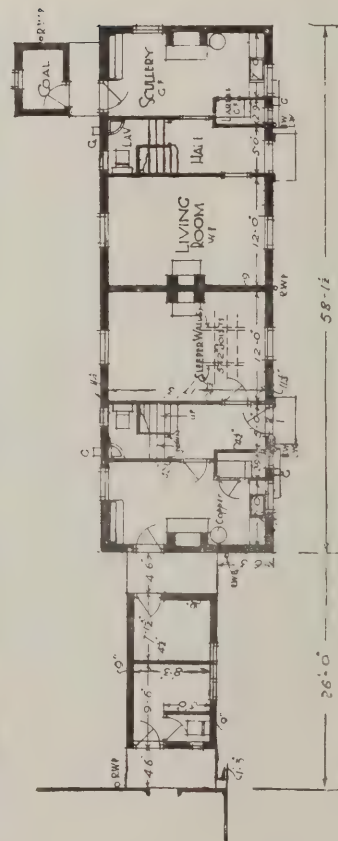
TYPE VI H.  
ADAPTED FOR BLOCK 107  
QUEENSTOWN

WINDOWS ACCORDING TO DETAIL DRAWING NO. 500002



NW ELEVATION

SE ELEVATION



GROUND FLOOR PLAN.

FIRST FLOOR PLAN

APPROX.



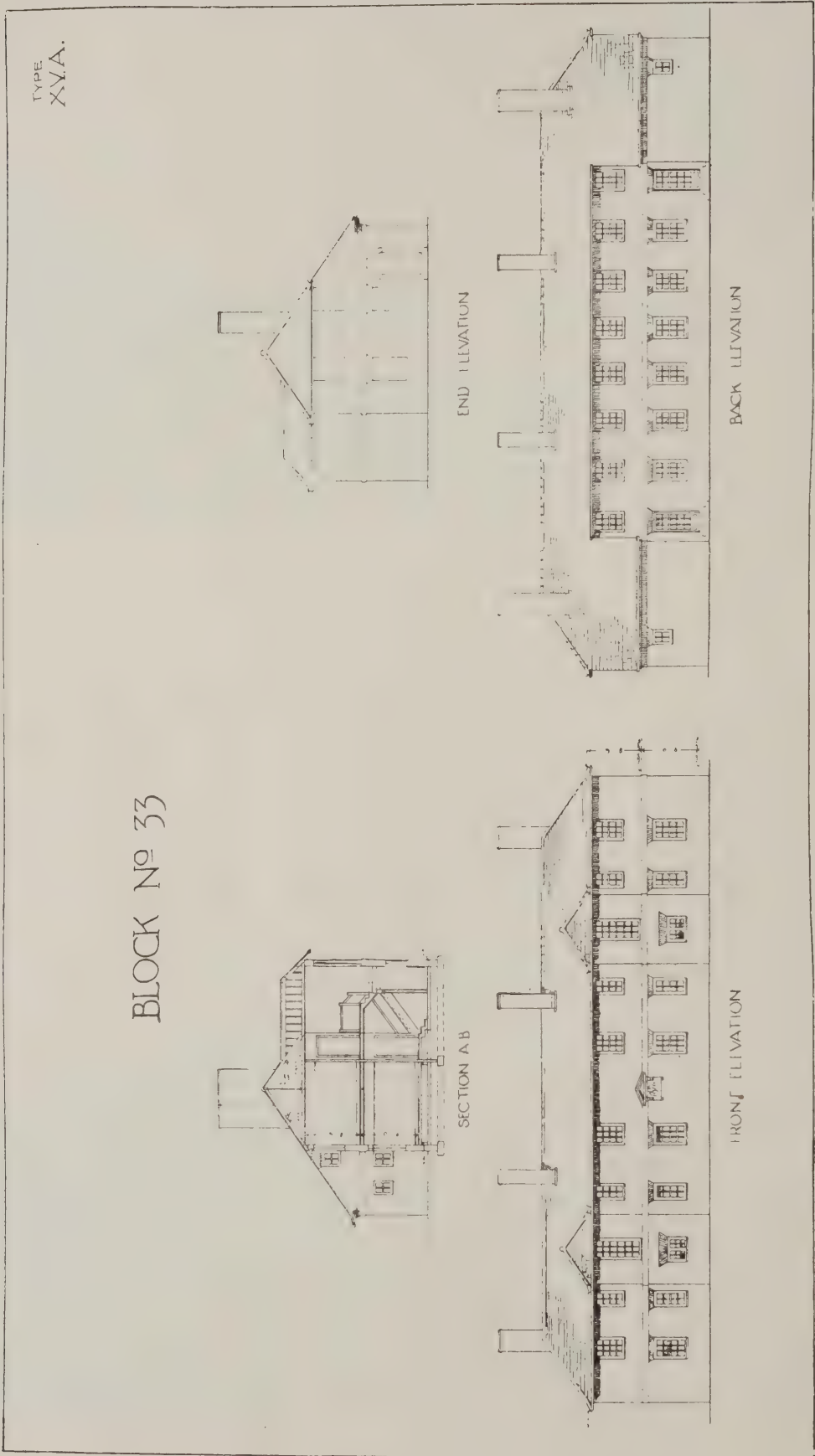
*(Drawings of Police Hostel, building on right-hand side of view, are shown on page 52.)*

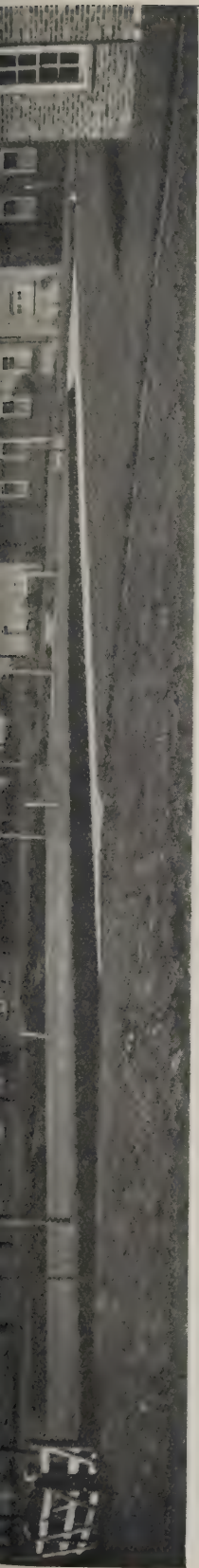


GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.

*(Drawings of above houses are shown opposite.)*

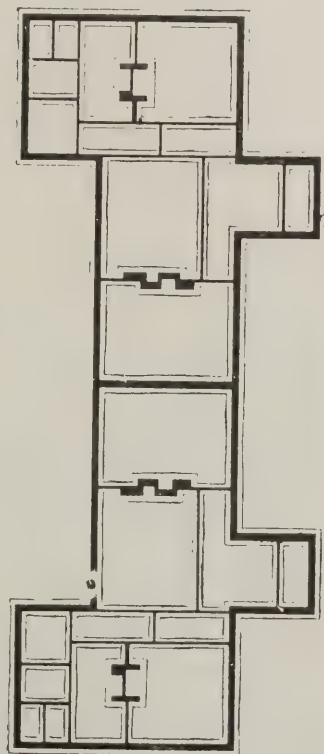




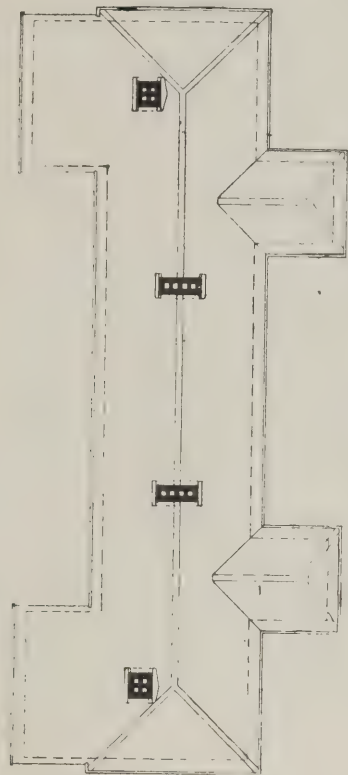


BLOCK No 33

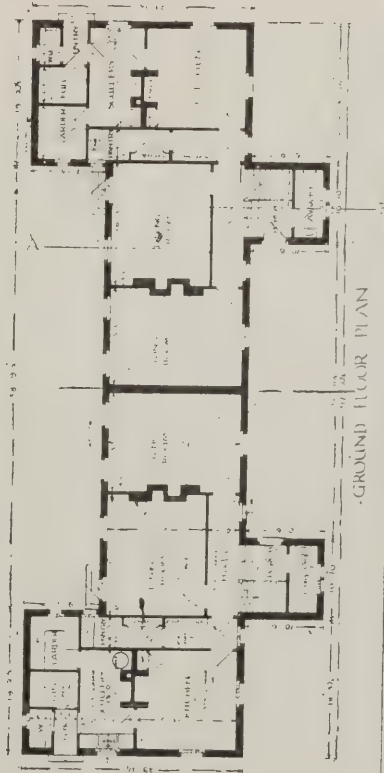
TYPE  
XV A  
A



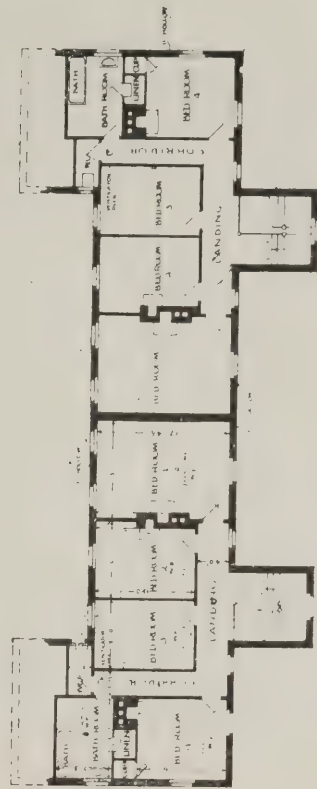
GROUND FLOOR PLAN



ROOF PLAN



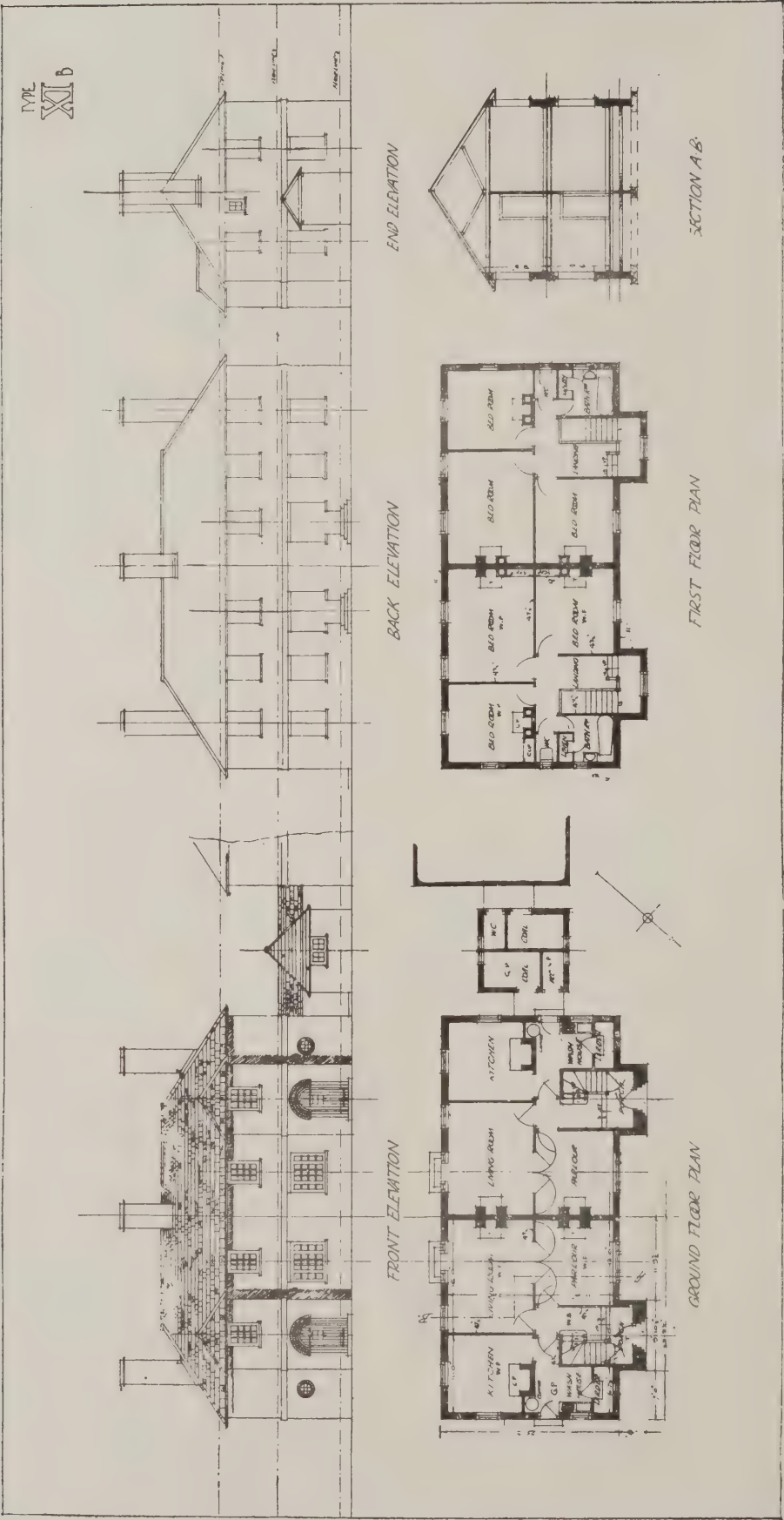
FIRST FLOOR PLAN



SECOND FLOOR PLAN

GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.





GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.

(Photographic view on opposite page.)

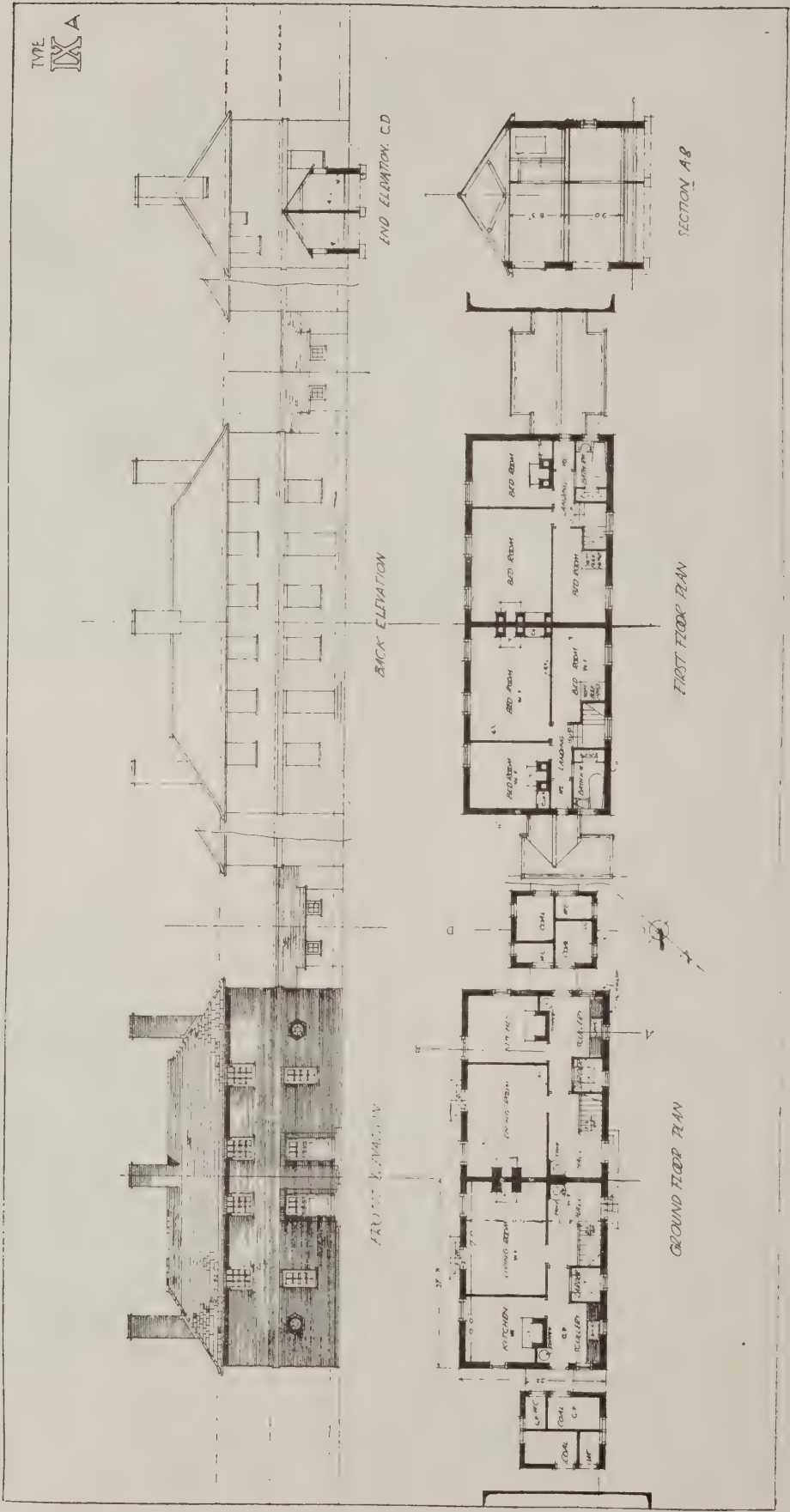


*(Drawings of above houses are shown opposite.)*



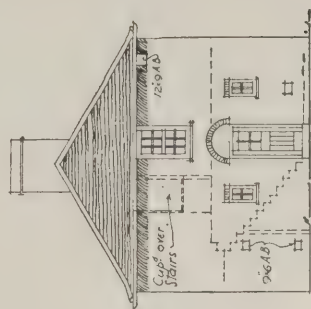
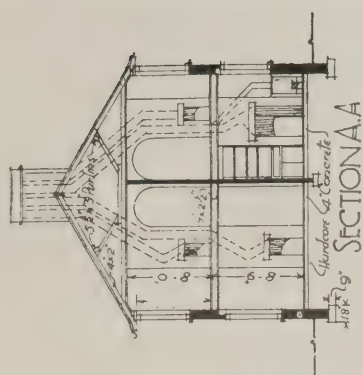
GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.



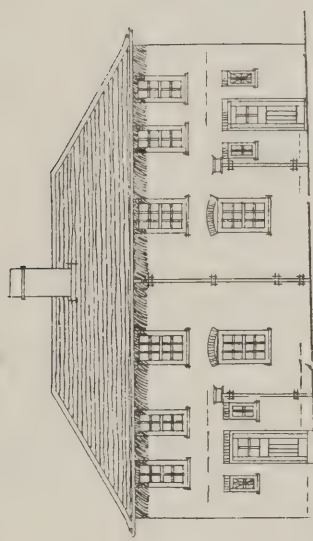


GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.  
(Houses of the above type are shown in the upper view on page 13.)

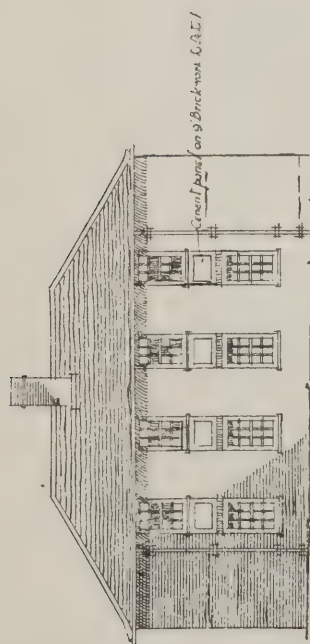
## TYPE VI E. REVISED.



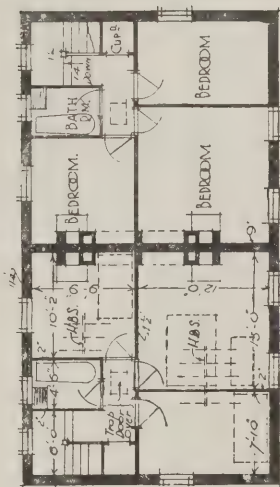
SIDE ELEVATION.



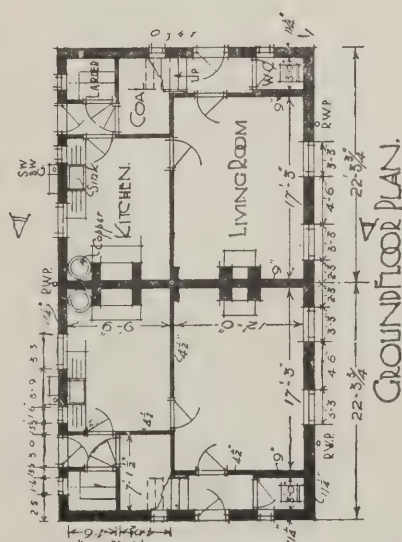
# BACK ELEVATION



FRONT ELEVATION.



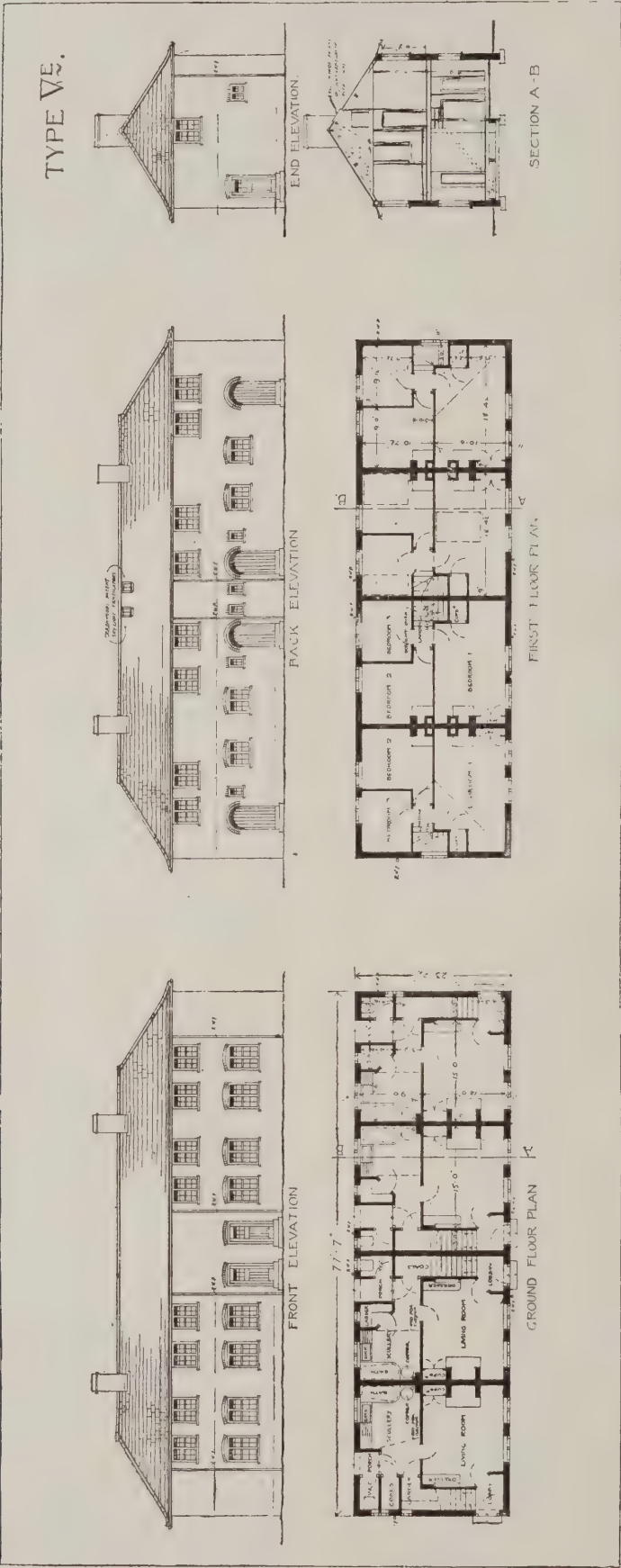
# FIRST FLOOR PLAN



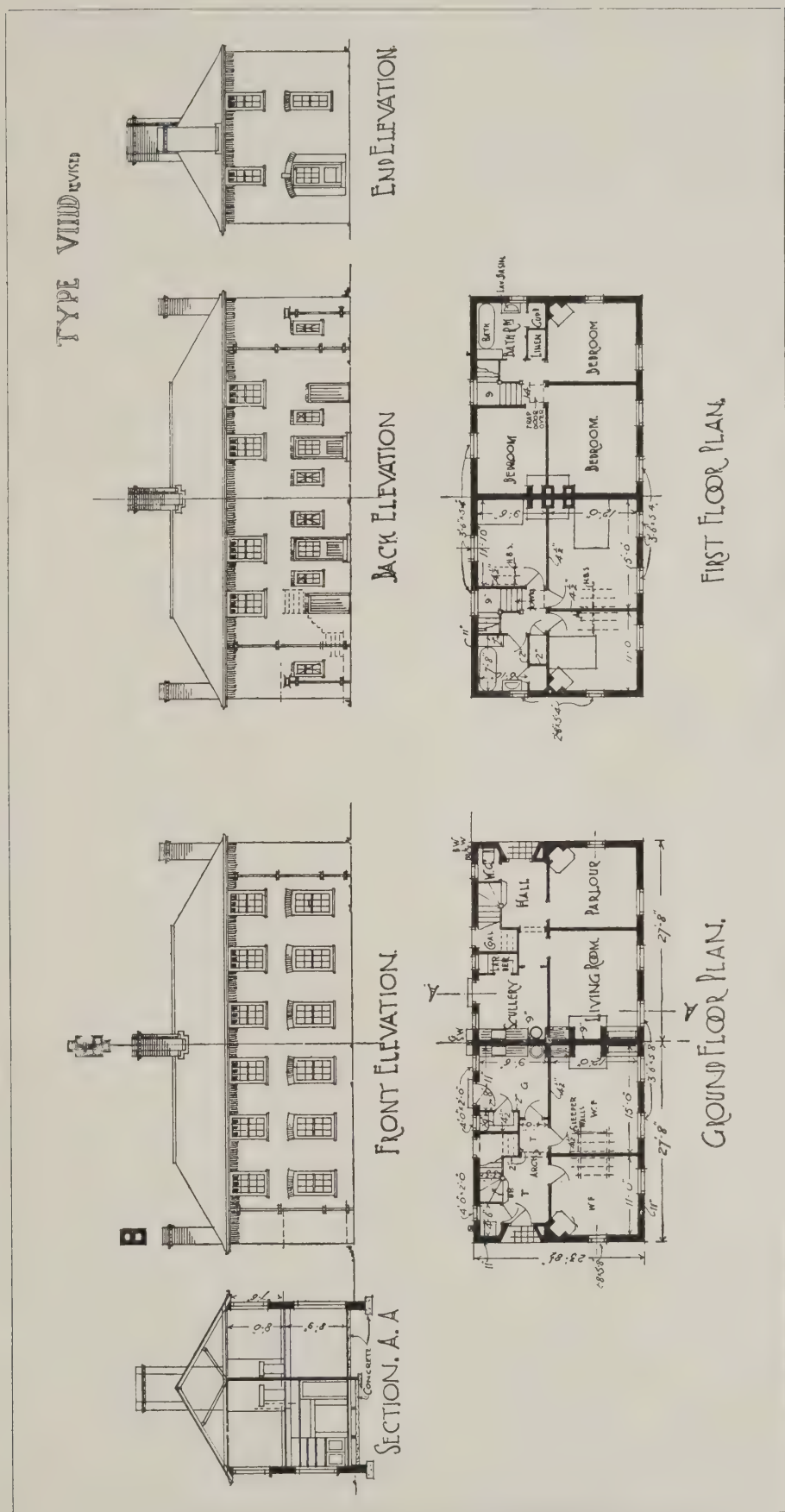
GROUND FLOOR PLAN.

GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.





GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.

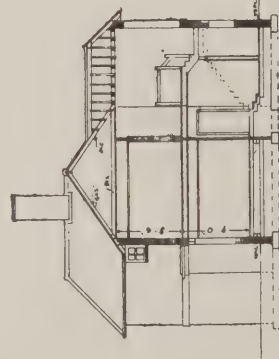




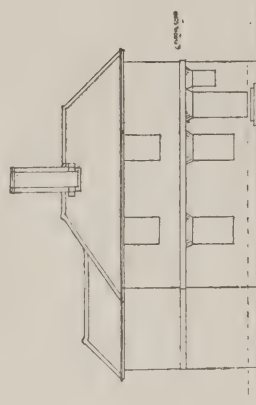
MINISTRY OF MUNITIONS OF WAR.

TYPE  
XV  
B

SCALE EIGHT FEET TO ONE INCH

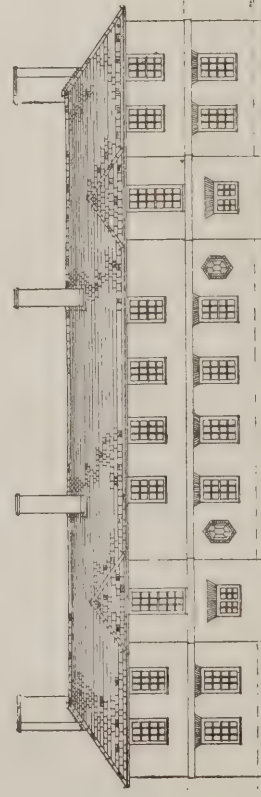


SECTION A B

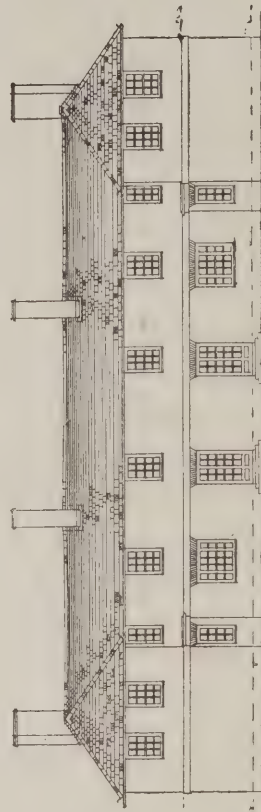


END ELEVATION

HOUSING SECTION  
DRAWING NO. 50356/4  
MADE BY C.E. & J.A.G.  
27.3.16



FRONT ELEVATION

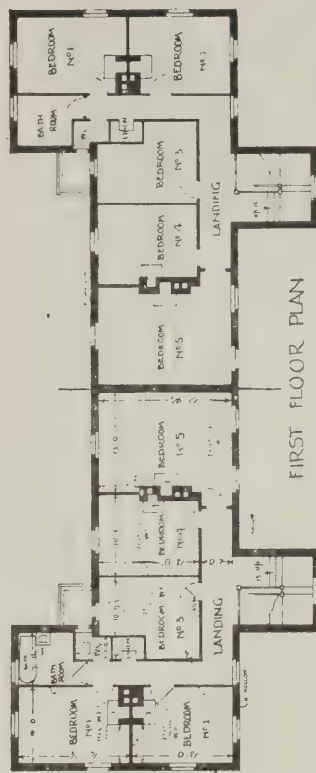
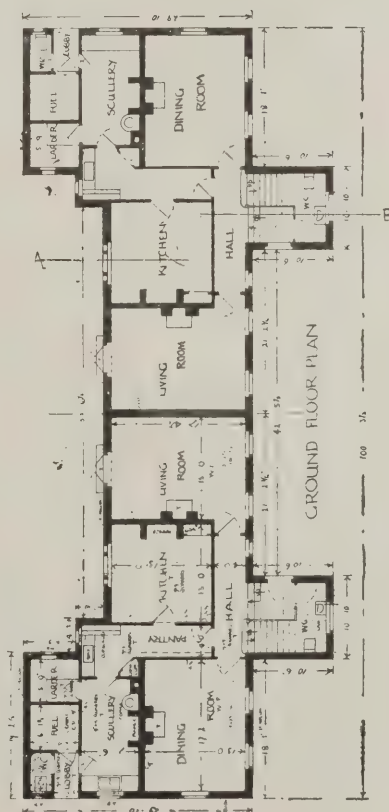
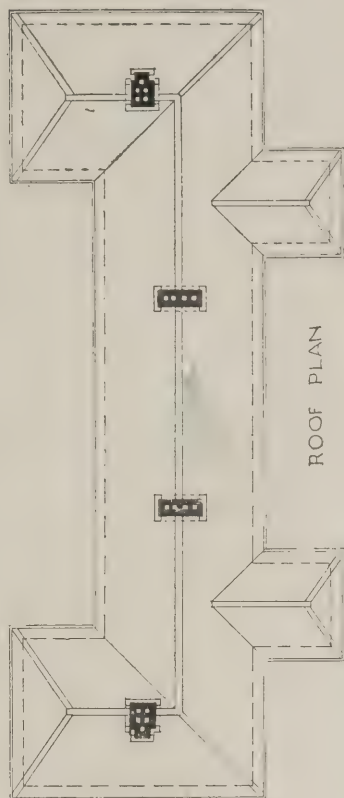
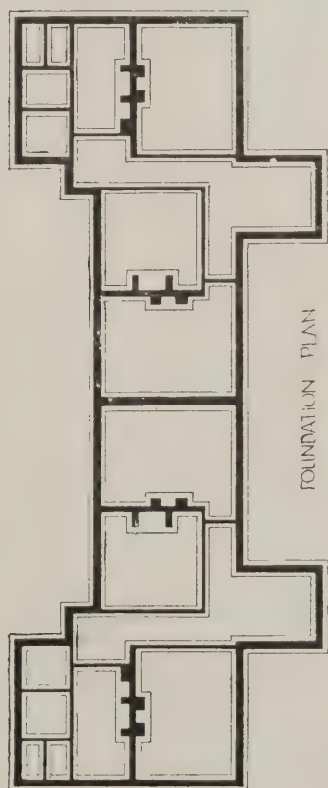


BACK ELEVATION

GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.

MINISTRY OF MUNITIONS OF WAR

TYPE  
XV  
B

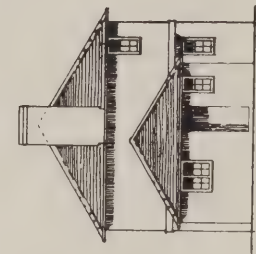


GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.

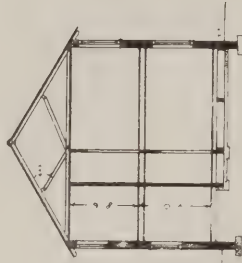
(These plans refer to the elevations on the opposite page.)



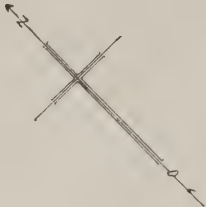
TYPE. XIV. E.



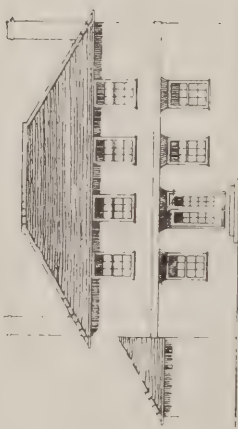
NORTH EAST ELEVATION



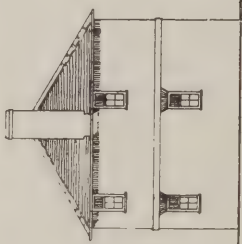
NORTH WEST ELEVATION



SOUTH EAST ELEVATION



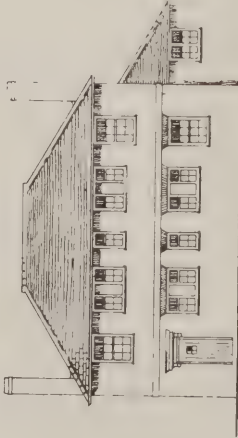
SOUTH WEST ELEVATION



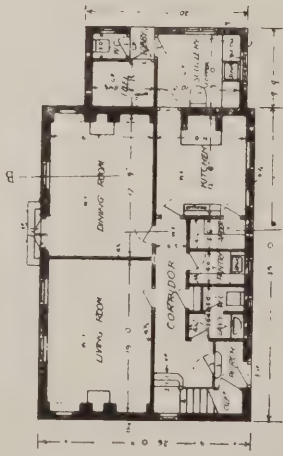
SOUTH EAST ELEVATION



FIRST FLOOR PLAN



SOUTH EAST ELEVATION



GROUND FLOOR PLAN

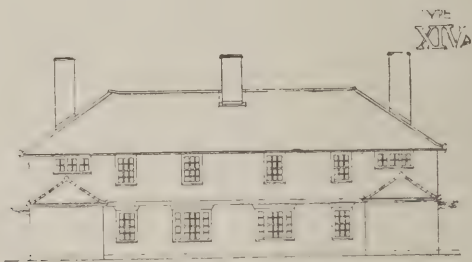
GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.



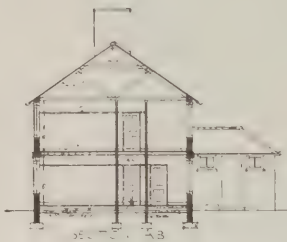
GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.

*(Drawings of house in foreground are shown above.)*





BACK ELEVATION



END ELEVATION



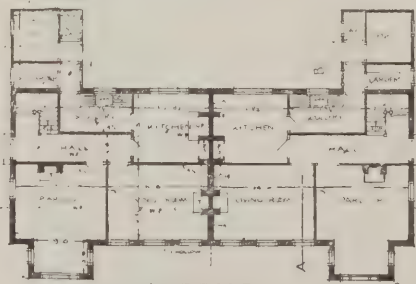
FRONT ELEVATION



FOUNDATION PLAN



ROOF PLAN



GROUND FLOOR PLAN



FIRST FLOOR PLAN

GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER.

COTTAGE SHELLS as HOSTEL  
39 BEDS

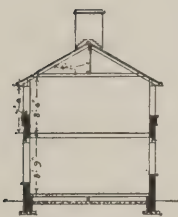
TYPE  
V B  
HOSTEL



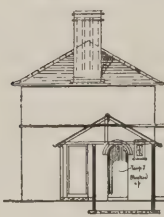
END ELEVATION



BACK ELEVATION



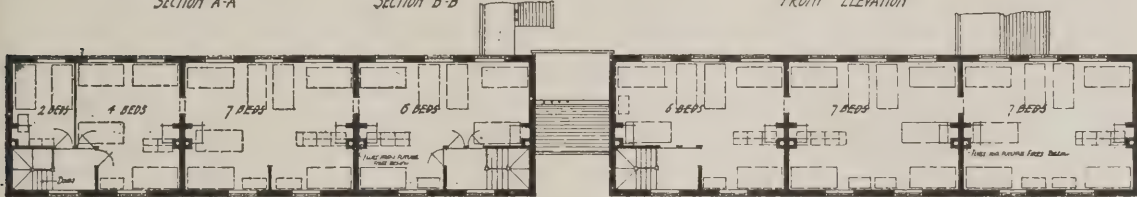
SECTION A-A



SECTION B-B



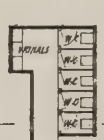
FRONT ELEVATION



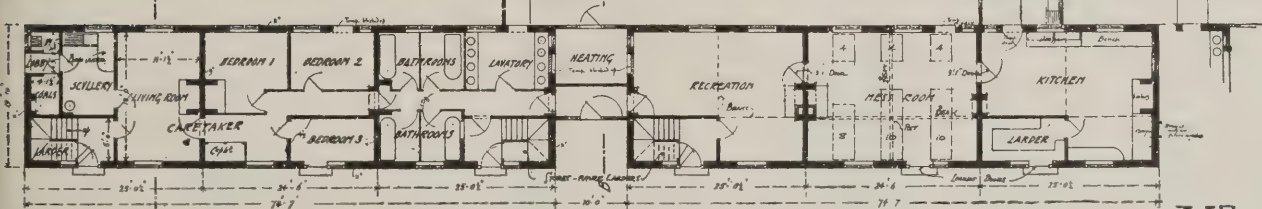
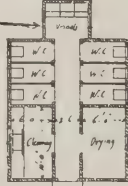
FIRST FLOOR PLAN



SECTION C-C



ALTERNATIVE  
for M.C. Block



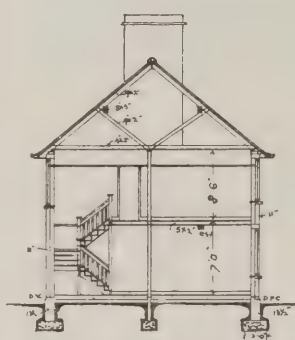
GROUND PLAN

YB

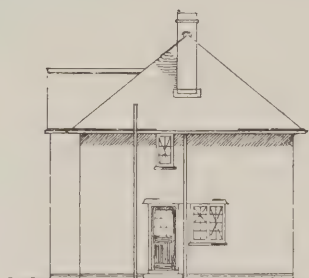
REVISED 26 Oct 1918

GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER: HOSTEL COTTAGES.





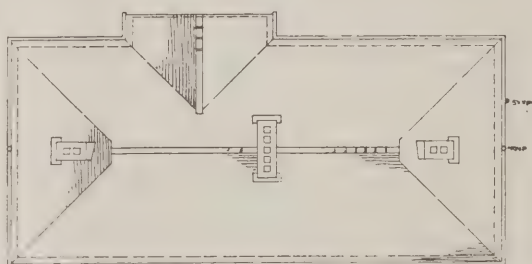
SECTION A B



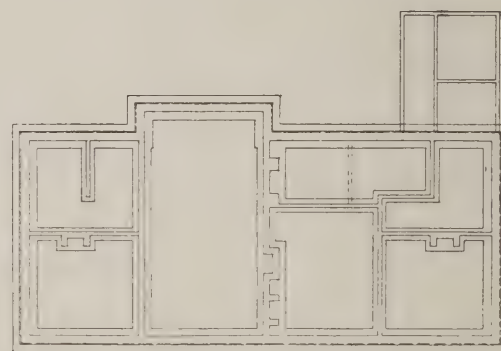
END ELEVATION



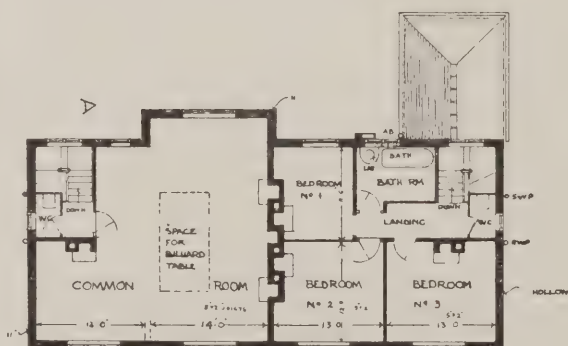
FRONT ELEVATION



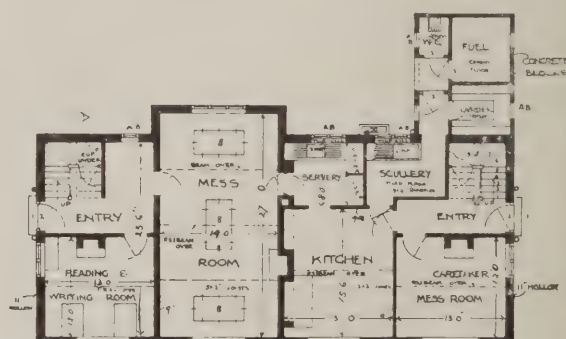
ROOF PLAN



FOUNDATION PLAN



BEDROOM PLAN



GROUND FLOOR PLAN

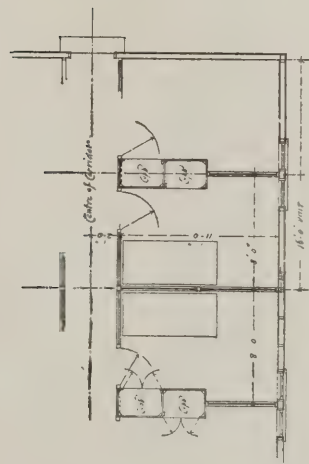
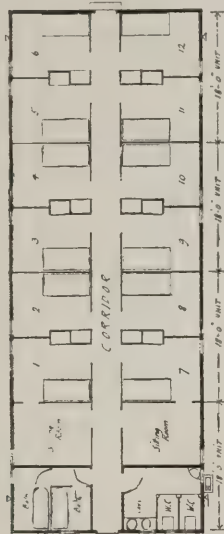
STAFF HOSTEL COTTAGE A

GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER: STAFF HOSTEL COTTAGE.

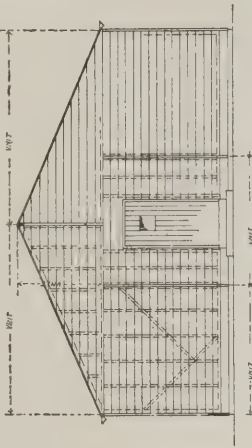
Ministry of Munitions of War  
Staff Hostels

Type 1

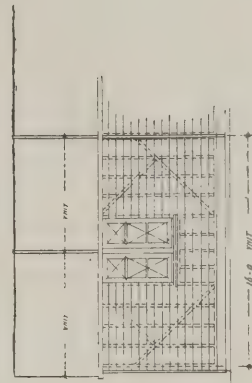
Plan of Cobble Block  
12 Beds -



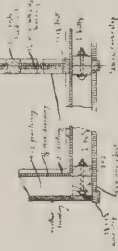
Detail of Cobble Block



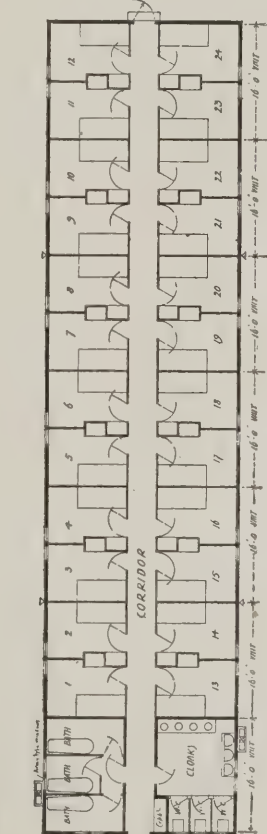
End Elevation



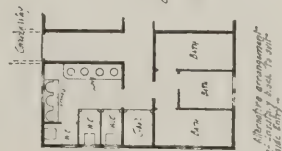
Side Elevation



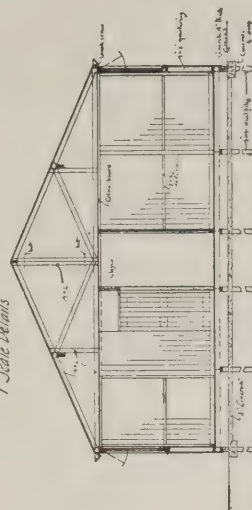
1" Scale Details



Plan of Cobble Block  
24 Beds -

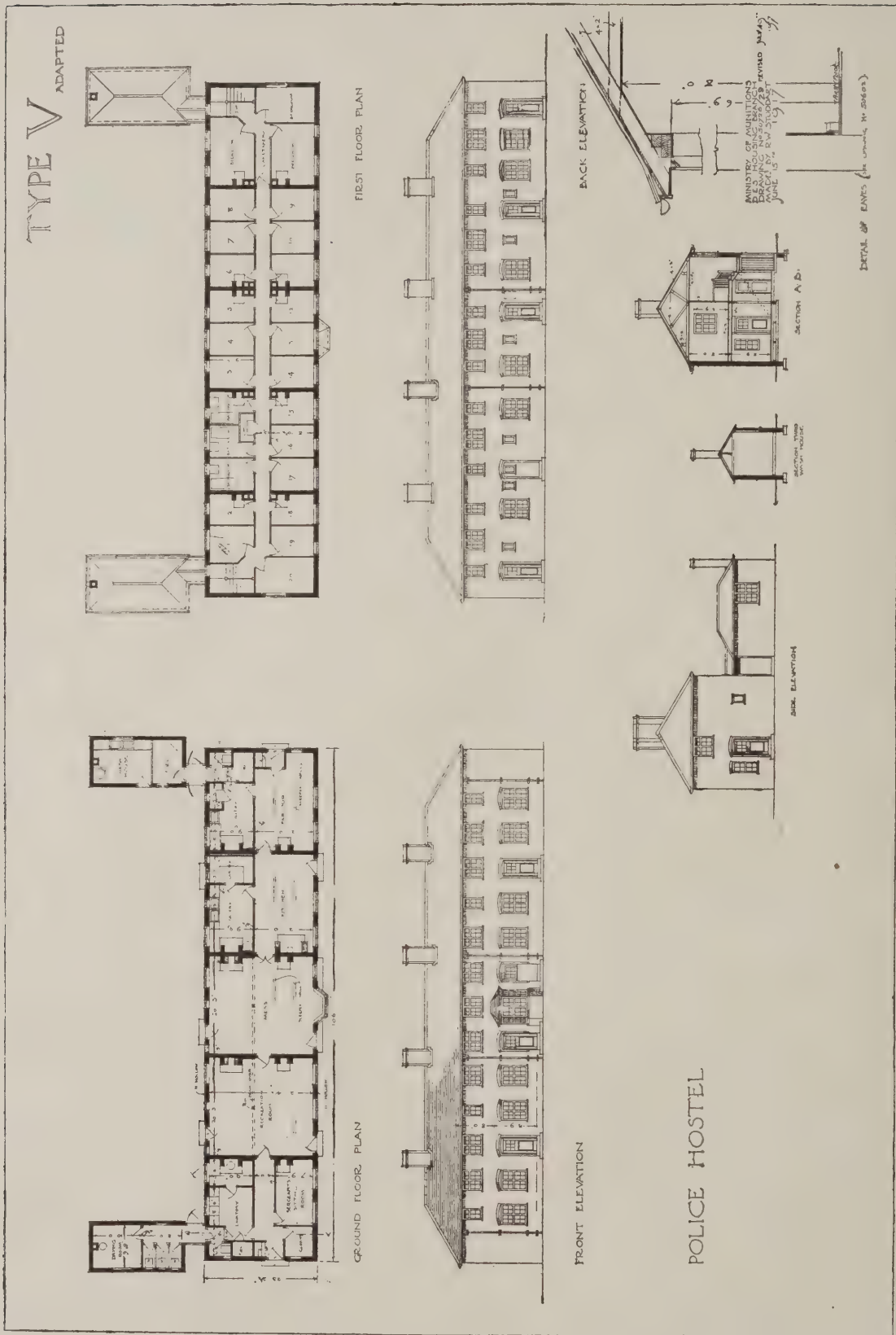


Detail of Cobble Block



Cross Section





GOVERNMENT HOUSING SCHEME AT MANCOT, NEAR CHESTER: POLICE HOSTEL.

(The above Hostel is shown in the upper view on page 15.)

## NEWS ITEMS.

*Town-planning at Bolton.*

Bolton Town Council is to be asked to sanction the formation of a Housing and Town Planning Committee.

*Housing at Richmond, Surrey.*

Richmond Town Council propose, at a reasonable time after the war, to erect forty-six houses for the working classes, in addition to the rebuilding of eleven cottages at Petersham and fourteen at North Sheen.

*Building without a Licence.*

For carrying on building and construction work at a picturedrome in Liverpool, without a licence from the Ministry of Munitions, the two partners in a firm of builders and contractors were each fined £20 and the proprietors and the architect were fined £50 and £20 respectively.

*A Hundred New Houses for Hove.*

Under the Government scheme for assisting local authorities to build working-class dwellings, the Sanitary Committee of the Hove Town Council recommend that a scheme be prepared forthwith for the construction of 100 houses, and submitted to the Council for approval.

*North-West Federation of Building Trades Employers.*

At the annual meeting of the North-West Federation of Building Trades Employers, held in Manchester on June 26, Mr. Thomas McHugh (Liverpool) was elected president, Messrs. J. E. Mayers (Chester) and T. R. Lonsdale (Leeds) vice-presidents, and Mr. P. Howarth (Rochdale) treasurer.

*Home-Grown Supplies of Pitwood.*

A rough census was recently taken by the Department of Timber Supplies of the standing timber stocks in the United Kingdom. The results indicate that there are in this country over 900,000,000 cubic feet of wood suitable for pitwood, exclusive of young plantations which have not yet reached pitwood size. This quantity is equivalent to six years' supply. Reserves of hardwoods appear to be ample for all possible requirements, and there is also a fair stock of conifers.

*L.C.C. Working Men's Dwellings.*

An interesting statement, showing the revenue the L.C.C. derives from its working men's dwellings—which house nearly 9,000 persons—has just been issued. It seems that, of a net estimated income of £234,171, an increase of £4,365, no less an amount than £112,028, or 47.84 per cent., is absorbed by interest and sinking fund charges, while rates and taxes, provision or repairs, and the cost of management require £109,173, or 46.62 per cent. The estimated surplus works out at only £8,206, or 3.50 per cent. of the net income.

*Site for a Leeds Garden City.*

Members of the Leeds City Council paid a visit of inspection on June 23 to the site at Middleton which it is proposed to acquire for the purpose of a "garden city." The proposal was the subject of considerable discussion at the meeting of the Council earlier in the month, and it was then decided that the site should be visited by the members before they were called upon to commit themselves. The site is one of 326 acres, and the proposal is to acquire it from the Middleton Estate and Colliery Company at £140 per acre, this price including the minerals underneath. If the proposal is adopted, it will be neces-

sary to connect the site with the city by constructing a tramway linking up with the existing city tramway system. The Middleton Colliery Company have offered to give the land for this purpose. The members of the Council were conducted over the site by Mr. Carby Hall, chairman of the Corporation Development Committee, who explained the details of the proposed scheme.

*Royal Institute of Architects of Ireland.*

At a special meeting of the Council of this Institute held in Dublin, Mr. W. Kaye-Parry, M.A., B.E., presiding, Mr. R. M. Butler was co-opted on the Council in place of Mr. G. F. Beckett, who resigned, having joined the Officers' Training Corps. The President announced that Mr. Louis François Giron and Mr. William Albert Dixon had passed the recent examination for the admission of students to the Institute. It was decided to hold the next examination in June, 1919. An exhibition of the measured drawings submitted by the candidates as testimonies of study will be held early this month.

*War Memorial Decorations, Hampstead.*

Mr. Ivor Beaumont, A.R.C.A., F.R.S.A., M.S.A., F.I.B.D. (Lond.), has been entrusted with the war memorial decorations in memory of fallen heroes for the Hampstead Garden Suburb Free Church, under Sir Edwin L. Lutyens, A.R.A. The wall decorations are to fill existing architectural spaces, about 20 ft. by 14 ft., on each side of the great organ recess, together with panels on the adjacent north and south walls, having decorative border and names of heroes inscribed. The decorations are to be executed in a similar medium to that of the famous wall decorations in the Pantheon, Paris, and also the Musée de Picardie, Amiens. The memorial tables are being designed by Sir Edwin L. Lutyens, A.R.A.

*Housing at South Shields.*

Mr. Charles H. Eyles, F.S.I., an Inspector of the Local Government Board, held an inquiry at the Municipal Buildings, South Shields, on June 24, into an application of the Corporation for sanction to borrow £18,400 for the purchase of the Cleadon Park estate for the purpose of carrying out, after the war, a scheme under the Housing of the Working Classes Act. The Town Clerk (Mr. J. Moore Hayton) explained that the estate was situated about three-quarters of a mile south of the borough boundary, on both sides of the main road, and was in the area of the South Shields Rural District Council. The area proposed to be purchased was 185½ acres, and consisted of the mansion house and grounds of the late Mr. James Kirkley and five cottages, the remainder being agricultural land. The price proposed to be paid was £17,400, and £1,000 had been added to meet the necessary expenses. With respect to the object of the purchase, the Corporation proposed to devote a portion of the estate to housing, and the other portion, containing the buildings, for hospital purposes. Mr. Hannay, on behalf of the Rural District Council, said they did not desire to hamper the Corporation in any effort to provide better housing accommodation for the working classes, but he contended there was no necessity to acquire the Cleadon Park estate for the purpose, whilst within the borough there was sufficient land on which to build to serve for some years to come.

## TRADE AND CRAFT.

*Messrs. Waygood-Otis, Ltd., Annual Meeting.*

At the eighteenth annual general meeting of Messrs. Waygood-Otis, Ltd., held at the Cannon Street Hotel, London, E.C., on June 25, the Chairman said, in the course of the address in which he moved the adoption of the report and balance-sheet: The eighteenth annual report and balance-sheet under review today indicate a distinct improvement in the affairs of the company. The difficulties to which attention has previously been called are still with us, accentuated rather than otherwise, but with the loyal and hearty co-operation and assistance of our staff and other employees throughout the establishment, including the branches, we have largely succeeded in surmounting them.

We continue to be solely occupied on work for, or authorised by, the Government Departments. Much is of a special character and new to us, and requiring the use of our machine shops to the exclusion of other departments. This, in a measure, handicaps us because we must maintain the whole, not only to take care of essential lift work for munition factories, ships and Government buildings, etc., but for the preservation of our goodwill as the premier lift manufacturers, so that at the close of the war we may be readily able to revert to, and prepared to cope with, the maximum demand in this our normal pre-war line of business.

The work in hand, coupled with the necessity for increased dilution of labour, compels us to purchase additional new and modern machine tools; these will, however, be found beneficial not only for the work we undertake now, but in the future.

The Chairman then entered upon a detailed analysis of the accounts, the chief items in which were stated in last week's issue, page 297. Continuing, he said: To sum up the results quite briefly, the profits earned during the year exceed those of the previous year by rather more than £10,000. Whereas at March, 1917, we had a balance to profit and loss of £8,122 1s. 1d against arrears of Preference dividend of £15,375; this year we have £17,403 1s. 7d. against the same amount of arrears. Out of this sum we shall on July 15 distribute a full year's arrear of Preference dividend, instead of the usual six months. This will leave £8,403 1s. 7d. It is deemed not only wise but necessary to retain this in the business for the present in view of the financial position, and the cash requirements for new tools, open contracts, and increased cost of stocks, etc. We are sorry to say this still leaves the holders of Ordinary shares without a dividend, but the outlook is more hopeful for them than at any time since we had to pass the Ordinary dividend. As the shareholders will remember, a number of our men left us to join the forces, and, unfortunately, twenty-eight have lost their lives. To the relatives the directors extend their fullest sympathy; some who have done their duty at the front and been discharged have been employed by us again. The management are doing all they can for the welfare and comfort of the employees, consequently we have no labour disputes, but a united effort is made not only to turn out as much as possible, but to maintain the highest standard of work, that has made the good reputation which we are proud to know our company enjoys.



## THE JOURNAL "WANTED" ADVERTISEMENT COLUMNS.

### Appointments Wanted.

4 lines (about 28 words) 1s. 6d.; 3 insertions 3s.

**BRICKLAYER** wants brickwork, pointing. Well up in boiler setting and furnace work, kitcheners, and tiled hearths. Labour only.—W. R., 72, Grosvenor Terrace, Camberwell, S.E.

**BRICKWORK**, pointing, sanitary work, dilapidations, alterations wanted. Piece or lump. Highest references. Terms strictly confidential. Labour only.—R., 58, Ash Street, Walworth, S.E.17.

**FOREMAN** of Bricklayers seeks re-engagement. Good manager of men. Well up in shoring. Also good references. Private job preferred. Can take entire charge of job if required.—C. P., 99, Lorrimer Street, Walworth, S.E. 160

**GENERAL Foreman** seeks re-engagement. Bricklayer by trade. Good references.—A. W., 159, Norwood Road, S.E.24.

**GENERAL Foreman** seeks re-engagement. Town or country (latter preferred). Trade, carpenter. Competent, reliable, and energetic. First-class references.—J. T. S., 64, Portobello Road, Notting Hill, W.11.

**MANAGER** of builder's or estate or clerk of works wanted by all-round practical man in every detail. Active. Good references. Shortly disengaged.—Letters to Williams, 39, Payne Avenue, Hove.

**PAPERHANGER** (over 20 years London, West End experience) wants piecework; well up in all specials, panelling, etc.; best work only taken; town or country.—Robert Clifton, 31, Ospringe Road, Ken-tish Town, N.W.5. 154

**STRUCTURAL** Steel Work Erector, employing first-class sheeters and erectors, now completing important Government work, desires similar work on contract. Priority work only.—Box 159.

**THE Association of Builders' Foreman and Clerks of Works**, 56, Old Bailey, E.C.—Experienced Foremen and Clerks of Works can be obtained by applying to the Secretary, Mr. J. W. Sawyer, 214, Clapham Road, S.W. Competent foremen and clerks of works are invited to join this association.

**WANTED.** Alterations, dilapidations, brickwork, years' experience. Just finished three and a half years' job. Piece or day work. Labour, plant, and brushes and supervision from 1s. 1d. hour.—Decorator, 39, Kenninghall Road, Clapton, E.5.

**WANTED.** Brickwork, pointing, and dilapidations.—X., 14, Cambridge Street, Camberwell New Road, S.E.

**WANTED.** Alterations, dilapidations, brickwork, and pointing.—W., 78, Smith Street, Kennington Park, S.E.5.

**WORKING** or walking foreman painter. Smart, energetic, capable. Eighteen years' experience as foreman. Practical all-round tradesman. Good colourist.—J. Walker, 329, North End Road, Fulham, S.W.6.

### Auction Sales.

9d. per line.

**COUNTY BOROUGH OF READING.**  
NOTICE OF SALE OF FREEHOLD PROPERTIES, forming part of THE BLAgrave ESTATE, which **MESSRS. SIMMONS AND SONS** are instructed to SELL BY AUCTION, at the CORN EXCHANGE, READING, on WEDNESDAY, July 31, 1918, at 2.30 p.m., including 12 PRIVATE RESIDENCES, 29 SHOP PROPERTIES, 87 COTTAGES, and about 26,000 SQUARE FEET of BUILDING SITES, Occupying commanding positions in the important thoroughfares of Friar Street, Castle Street, London Street, Southampton Street, and Bridge Street, and other parts of the centre of Reading.

Producing a gross rental of £2,186 PER ANNUM. Particulars, plans, and conditions of sale may be obtained of the Solicitors, Messrs. Bridges, Sawtell, and Co., 23, Red Lion Square, W.C.; or the Agent, A. W. J. Way, Esq., Blagrove Estate Office, 154, Friar Street, Reading; or of the Auctioneers, Henley-on-Thames, Reading, and Basingstoke.

Re William Johnson, decd.—**EXECUTORS' SALE** to close estate.—A really excellent FREEHOLD detached RESIDENCE, 74, BALHAM PARK ROAD, WANDSWORTH COMMON. Well-planned, splendidly built. Good garden, glasshouses, etc. 40 ft. of FREEHOLD BUILDING LAND adjoining. Another 60 ft. frontage in the same road, splendid depths. PLOT in Wandle Road, close by. FREEHOLD HOUSE in ST. JAMES'S ROAD, WANDSWORTH COMMON. Capital LEASEHOLD VILLA, 147, RAMSDEN ROAD; BALHAM. SALE BY AUCTION, at STANLEY'S HALL, 235, LAVENDER HILL, S.W.11, on THURSDAY EVENING, July 4, 1918, at seven o'clock. Solicitors, Messrs. Webster, Butcher, and Sons, 13, Bouverie Street, E.C. Particulars of Auctioneers, **EDWIN EVANS AND SONS**, 253, Lavender Hill, Clapham Junction, S.W.11.

### Educational Announcements.

6d. per line.

#### R.I.B.A. EXAMINATIONS.

Special personal system of preparations by correspondence or private tuition, Bond and Batley (A. G. Bond, B.A., Oxon, A.R.I.B.A.), 96, Grosvenor Road, S.W. Tel. 7036 Victoria.

## THE UNIVERSITY OF LIVERPOOL.

SCHOOL OF ARCHITECTURE,  
including  
DEPARTMENT OF CIVIC DESIGN.

Professor of Architecture:  
C. H. REILLY, M.A., F.R.I.B.A.

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The School provides a thorough theoretical and practical training for students wishing to enter the Architectural Profession. The courses, which lead to a degree (B. Arch.), a Diploma and a Certificate, begin on October 7. After a two years' course students obtaining a first-class certificate are exempted from the Intermediate Examination of the Royal Institute of British Architects. A special certificate of the University is given in Architectural Design. The designs required as testimonies of study for the Final R.I.B.A. are made in the School as part of the second year work.

#### DEPARTMENT OF CIVIC DESIGN.

Professor of Civic Design:

L. P. ABERCROMBIE, M.A., A.R.I.B.A.

The department provides a training for Architects and Engineers who wish to specialise in Town Planning. The courses lead to a Certificate and Diploma. The session consists of the Autumn and Lent Terms. Autumn Term begins on October 7.

Prospectuses of day and evening classes may be obtained on application to the Registrar of the University.

EDWARD CAREY, Registrar. 141

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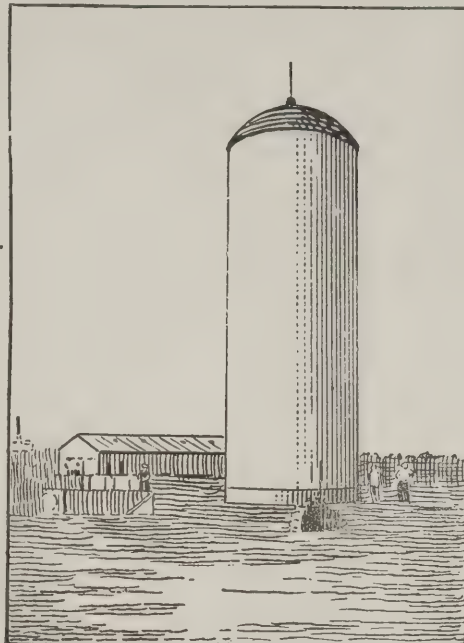
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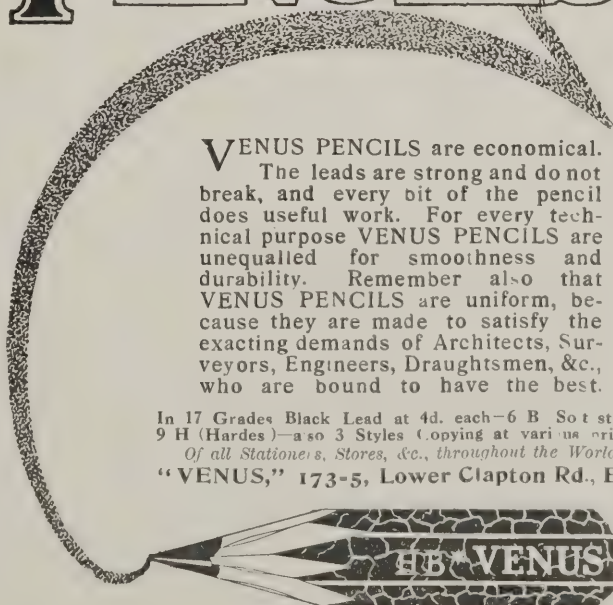
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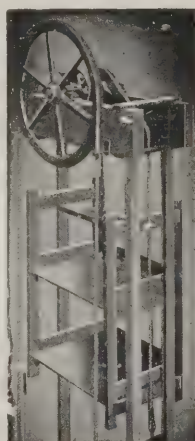
July 25.—**WORKING-CLASS DWELLINGS. Dublin.**—The Housing Committee of the Corporation of Dublin are (subject to sanction of L.G.B. to loan for the purpose) prepared to receive tenders for the erection of dwellings for the working classes, and the execution of other works on the Fairbrothers Fields area, Dublin, in accordance with plans, specifications, and conditions of contract prepared by the City Architect, which may be inspected daily at his office, Cork Hill and Lord Edward Street, Dublin, on or after Monday, July 1, 1918, between the hours of 11 a.m. and 4 p.m. (Saturdays excepted). The total number of houses to be erected under the contract is 370. The contract will be divided into three sections, as follows: Section 1, comprising the erection of 134 houses; Section 2, 134 houses; Section 3, 102 houses. Tenders may be submitted for one or more sections of the work. No tender will be entertained which is not on the prescribed form. Copies of bills of quantities and forms of tender may be obtained at the office of the City Treasurer, Municipal Buildings, Cork Hill, Dublin, on and after Tuesday, July 2, 1918, on payment of £2, which will be returned to contractors who submit bona-fide tenders. Tenders must be accompanied by the priced bills of quantities (priced in ink), and must also contain the names of two solvent sureties willing to be bound severally with the contractor in a sum equal to one-tenth of the amount of the contract for the due fulfilment of the contract. Tenders, under seal, addressed to the "Chairman of the Housing Committee," and endorsed "Tender for Fairbrothers Fields Housing Scheme," to be lodged at the Housing Committee Office, City Hall, Dublin, not later than 4 o'clock p.m. on Thursday, July 25, 1918. Contractors will be required to agree to the condition that no tender shall be amended or withdrawn, without a consent of the Corporation, before the expiration of a period of three months from the date of delivery to the Corporation. The work to be executed under this contract shall be done entirely by local labour, and where this is considered impracticable, the contractor is to apply to the Municipal Council for permis-

sion to have the work done by other than local labour; and the Council, having considered the statements submitted by the contractor, shall be bound by such resolution. Trade union labour shall be employed in the carrying out of this contract. The Corporation will require the contractor whose tender may be accepted to pay not less than the minimum standard rate of wages paid in Dublin and district, and to employ regular tradesmen, and to observe the hours and conditions of employment now recognised as proper there. The workshop or workshops, factory or factories, or other places used by the contractor in the execution of the contract, shall be open to inspection at any time during working hours by a duly authorised representative of the trade affected by such contract upon the production of a permit signed by the Town Clerk or other officer appointed by the Supplies Committee of the Corporation. The lowest or any tender will not necessarily be accepted.

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## PAINTING.

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## SANITARY ENGINEERING.

July 30.—**SCAVENGING. Goole.**—For the nightsoil scavenging of districts Nos. 1, 2, and 3 for three years from September 24, for the Goole Urban District Council. Specifications and all other particulars may be obtained on application to the Sanitary Inspector. Separate tenders must be submitted for each district, stating locality of tips, preference being given to tenders providing for the disposal of the collections of nightsoil and lumbersome refuse by burial or removal outside the urban district. Sealed tenders, endorsed "Scavenging," to be delivered at the office of Mr. R. Tyson, Clerk, Council Offices, Goole, by 12 noon on July 30.

## A Bishop on War Memorials.

The Bishop of Worcester has issued a notice calling the attention of the clergy to the growing number of large tablets which it is proposed to place in the churches. He says: "We have really no right to occupy the church wall space in this way. The best way to commemorate those who have died in the war is the brotherly way of one memorial for the whole parish on which the names of comrades can be inserted. For rich persons to occupy the wall space with memorials which cannot be afforded by poorer parishioners is as objectionable as occupying the floor space by large private pews. I appeal to the Church feeling of my diocese to consider this."

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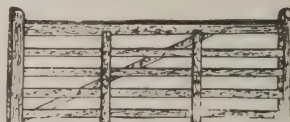
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## ELECTRICAL NOTES.

*The New Fuel and Lighting Order.*

The new Household Fuel and Lighting Order, recently issued by the Board of Trade, though the direct concern of the consumer, is naturally of interest to all who are in any way concerned with the electrical industry. Hence some reference may be appropriately made to the subject in this column. The Order, which is signed by the President of the Board of Trade, is dated June 28, and came into operation on July 1. The object of this Order is to save coal. Not less than a quarter of the coal previously available for domestic use and consumption must now be saved. If household coal alone had been considered the saving required would have necessarily been greater, but it was felt that it would be unfair to make heavy reductions in the supply of coal, if gas and electricity for fuel had been allowed unchecked. The saving required has, therefore, been distributed over all three, and a household may take the fuel it requires as gas or coal or electricity up to a given total quantity, according to its size and needs. If it takes less coal it obtains more gas and vice versa. So with electricity. As gas and electricity for lighting are usually supplied through the same meters as gas and electricity for fuel, the Order must extend to cover this. Allowances for lighting are set out in the Order following the allowances for fuel.

*Gas and Electricity Equivalents.*

The method of relating coal, gas, and electricity is to fix a fuel allowance in tons and to permit of the substitution of 15,000 cubic feet of gas or 800 Board of Trade units of electricity for one ton of fuel. Fuel may be converted into gas or electricity at the option of the consumer by quarter tons, but not by a less fraction. Much consideration has been given to these equivalents. There are two governing factors. First of all the amount of gas or electricity required by a consumer to obtain the same effective service as the burning of a ton of raw coal. Second, the amount of gas or electricity to be produced by the consumption of a ton of raw coal at the gas or electricity works. There is no necessary correspondence between these two factors, and the result adopted represents what is regarded as a fair and proper compromise.

*Administration of the Order.*

The administration of the Order rests on two principles. One, that the Local Authority must have a predominant voice in securing the welfare of the ultimate consumer, the public. Two, that this is no time to improvise new machinery, and the co-operation of the coal trade and of the gas and electricity companies and undertakings throughout the country is to be sought. As far as possible, trade must continue in the same channels and by the same methods as hitherto. By happy agreement this co-operation may be considered assured.

It is impossible to summarise the whole Order in the limited space at our disposal; but the following table gives a comprehensive idea of the new restrictions:

Where the number of rooms occupied is—	FUEL. The year's allowance shall not exceed— Tons.	LIGHTING. The year's allowance shall not exceed— Gas or Electricity (Both cannot be taken).	
		Cubic feet.	B.T. units
Not more than 2	3	7,500	120
" " 3	3½	7,500	120
" " 4	4	11,250	180
" " 5	4½	11,250	180
" " 6	5	11,250	180
" " 7	6	15,000	240
" " 8	7	15,000	240
" " 9	8	15,000	240
" " 10	9	18,750	300
" " 11	10	18,750	300
" " 12	11	18,750	300
" " 13	12	22,250	360
" " 14	13	22,250	360
" " 15	14	22,250	360

The Order applies to all buildings and premises in which coal, gas, or electricity is consumed for heating, cooking, or other than industrial purposes, such as hotels, clubs, restaurants, hospitals, asylums, homes, shops, warehouses, theatres, churches, chapels, baths, libraries, railway stations, etc. It also applies to laundries, bakeries, and quasi-domestic industries. It may on notice be extended to all industrial users taking less than 100 tons of fuel per annum. Special assessments of fuel and lighting will on application be made in such cases, and special rules will apply to the supplies.

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LATE CONTRACTS, ETC.

BUILDING.

July 24.—REPAIRS, ETC. Naas (Ireland).—Repairs, painting, etc., Kildare Dispensary Residence, for the Guar-

dians of the Union, in accordance with specification to be seen on application to J. M. Wheeler, Acting Clerk of Union, Naas.

August 8. — HOUSING SCHEME. Dublin.—The time for receiving tenders for the Fairbrothers Field Housing Scheme contract has been extended to August 8. Tenders should be delivered not later than 4 p.m. on that date to Edmund W. Eyre and Patrick Tobin, joint secretaries, City Hall, Dublin.

August 13. — FACING FILTER WALLS. Dunstable.—Facing a portion of the filter walls at Sewage Farm, Chalk Hill, near Dunstable, with Staffordshire bricks, for the Corporation. Particulars can be obtained from Wm. F. Wilkins, Borough Surveyor, Town Hall, Dunstable to whom tenders are to be sent.

MISCELLANEOUS.

July 26.—DEMOLITION. Edinburgh.—Taking down old buildings, laying aside, and stacking certain materials for the Corporation, as specified, or alternatively carting away and disposing of same, and removing all residue and rubbish, conform to specification and conditions prepared by A. Horsburgh Campbell, M.Inst.C.E., Burgh Engineer, Parliament Square. Tenders must be lodged with A. Grierson, S.S.C., City Chambers, Edinburgh.

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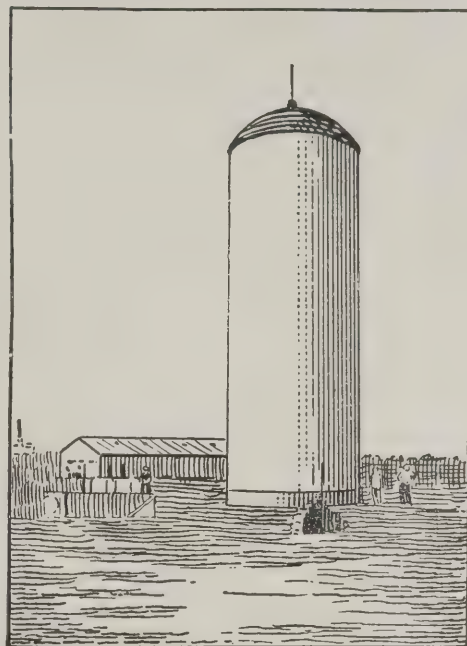
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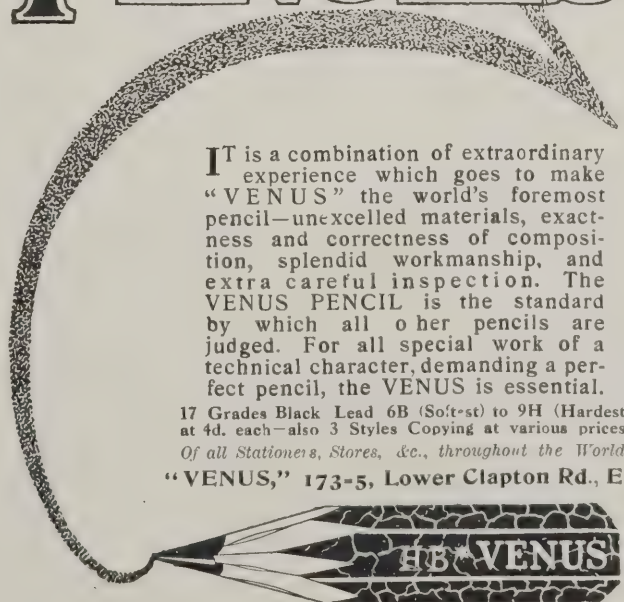
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## LATE CONTRACTS, ETC.

## PAINTING.

August 7.—**PAINTING COTTAGES, ETC. Cardiff.**—External painting of houses, cottages, and outbuildings at Barry, Sully, Penarth, St.-y-Nyll, Radyr Court Farm, Whitchurch, Llanishen, Leechmore, and Monknash, for the Glamorgan C.C. Copies of specification and form of tender may be obtained at the County Hall, Cardiff. Separate tenders may be sent for the different groups of buildings. Tenders to be delivered at the Glamorgan County Hall, Cardiff.

August 17.—**PAINTING BRIDGES. Manchester.**—Painting various bridges in the city (to be let in two contracts), for the Paving, Sewering, and Highways Committee. Specifications and forms of tender may be obtained on application at the City Engineer's Office, Town Hall, Manchester, on deposit with the City Treasurer of £2 2s. each. All cheques or postal orders to be made payable to the order of "The Corporation of Manchester." Tenders to be delivered at the City Engineer's Office.

August 17.—**PAINTING, ETC. Manchester.**—Painting, etc., of iron and steel work at Hulme Street tunnel, for the Paving, Sewering, and Highways Committee. Specifications and forms of tender may be obtained on application at the City Engineer's Office, Town Hall, Manchester, on deposit with the City Treasurer of £1 1s. All cheques or postal orders to be made payable to the order of "The Corporation of Manchester." Tenders to be delivered at the City Engineer's Office.

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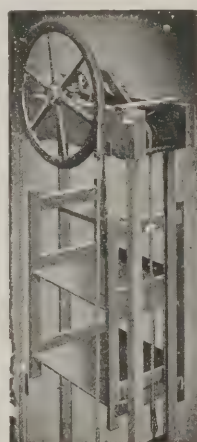
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## OBITUARY.

Mr. Horace Porter, F.R.I.B.A.

Mr. Horace Porter, M.A., F.R.I.B.A., who died on July 29, aged fifty-seven years, was educated at Uppingham and Trinity College, Cambridge, where he rowed in the First Trinity fourth boat, and was in the front rank in tennis and lawn tennis. He studied architecture under his father, the late F. W. Porter, F.R.I.B.A. Mr. Porter and his father occupied in succession the post of architect and surveyor to the Sun Fire Insurance Office for just fifty years, and that of surveyor to the Clothworkers' Company for about the same period. Father and son both passed the chair in the Saddlers' Company. Mr. Porter was Past Master, and for ten years secretary, of the Marquis of Dalhousie Lodge of Freemasons, and Past Grand Treasurer in the Mark-Masons Degree. He was an original member of the Holborn Borough Council, and mayor in 1910-11. He married, in 1901, Mary, youngest daughter of the late G. P. Bidder, O.C., of Mitcham.

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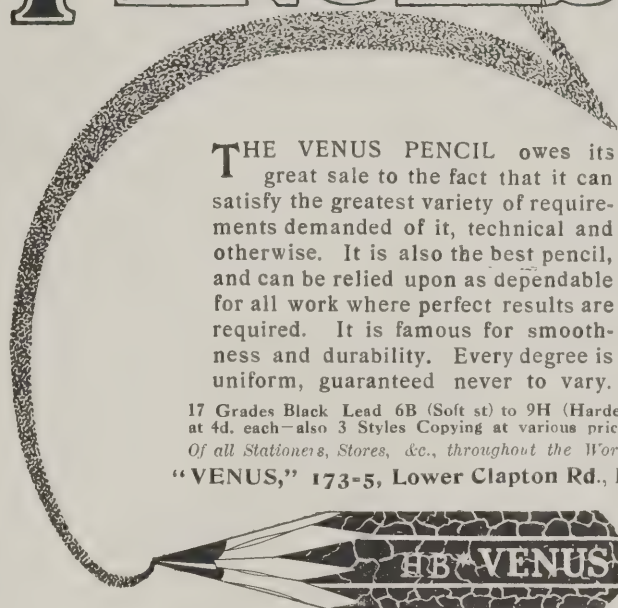
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## LATE CONTRACTS, ETC.

## PAINTING.

August 15.—**PAINTING, etc. London, S.W.**—Certain external painting, repairs, etc., at the Fulham Military Hospital, Fulham Palace Road, W.6, for the Board of Guardians. Copy of specification and form of tender may be obtained at the office of E. Y. Mott, Clerk, 129, Fulham Palace Road, W.6, upon deposit of £1 note. Tenders must be delivered to the Clerk.

## MISCELLANEOUS.

August 15.—**FENCING. Manchester.**—Supply and erection of chestnut fencing, etc., for allotments at Pink Bank Lane, Crowcroft; Green Street, Ladybarn; Hawthorn Road, Chorlton-cum-Hardy; for the Corporation. Plans may be seen and specifications, bill of quantities, and form of tender obtained on application at the City Engineer's Office, Town Hall, Manchester, on deposit with the City Treasurer of £1 is. All cheques or postal orders to be made payable to the order of

"The Corporation of Manchester." Tenders, addressed to the Chairman of the Small Holdings and Allotments Committee, are to be delivered at the City Engineer's Office.

August 15.—**IRON CASTINGS. Bristol.**—Supply of iron castings for six months, from September 1, 1918, to February 28, 1919, for the Docks Committee. Forms of tender and further particulars from Thomas A. Peace, Engineer, Docks Engineer's Office, Avonmouth. Tenders to be addressed to the Secretary of the Bristol Docks Committee, 19, Queen Square, Bristol.

August 16.—**VOTING SCREENS. London.**—Supply of single and double compartment voting screens for the Commissioners of His Majesty's Works, etc. Forms of tender, etc., may be obtained on application to the Controller of Supplies, H.M. Office of Works, etc., King Charles Street, Westminster, London, S.W.1.

## PORTLAND CEMENT IN IRELAND

The Joint Committee of the Dublin Industrial Development Association and the Royal Institute of the Architects of Ireland on native materials has submitted a second interim report devoted exclusively to the manufacture of Portland cement. The Committee explains that the urgency of the subject at the present time demands an expression of its views without waiting for the other matters under consideration to mature for its final report.

The report deals with the causes of the failure of some cement factories in Ireland: the present state of the industry, and

the future possibilities and likelihood of success attending the manufacture of cement in Ireland. At present the only cement factory working in Ireland is at Magheramorne, and that is controlled by the "British Portland Cement Manufacturers' Combine; that Ireland is specially favoured in the possession of cement-making materials, which are widely distributed, with facilities for transit by rail and water. Dublin, Wexford, Cork, Limerick, Kilkenny, South Armagh, Tyrone, and the Arigna coal mining districts are all referred to as affording suitable sites for the manufacture of cement.

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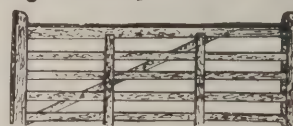
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## ELECTRICAL NOTES.

*The Fuel and Lighting Order Explained.*

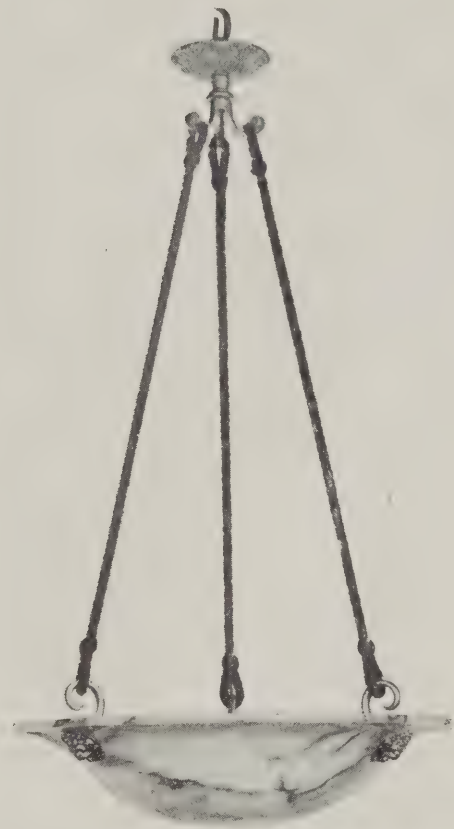
The new Fuel and Lighting Order, to which we referred in the last of these notes, having given rise to much misunderstanding, Sir Albert Stanley, in the House of Commons, has recently devoted a long speech to its elucidation. The idea of the Order, of course, is to save coal, but, in common fairness, equal reductions have to be made in the consumption of gas and electricity. As already explained, the method of relating coal, gas, and electricity is to fix a fuel allowance in tons and to permit of the substitution of 15,000 cubic feet of gas or 800 Board of Trade units of electricity for one ton of fuel.

Replying to critics who objected to the incidence of the rationing scheme, Sir Albert Stanley said: It would be impossible in an Order to include every kind of establishment, and indicate to what extent they should be rationed. Obviously those larger institutions, schools, asylums, hospitals, nurses' homes, and so on, must be treated specially, and the Order makes provision for that. There is no definite scale established for them. They make an appeal to the local fuel assessor, and he establishes the rations based upon their actual needs. I can safely say, in so far as those particular institutions are concerned, that they will be able to secure a supply of coal which will protect them against any hardship. This is a Fuel Order. Clearly it would be impossible, if it is necessary to ration coal, simply to deal with coal as a fuel for household purposes, whether for lighting or cooking, and leave out of consideration other forms of fuel, such as gas and electricity, which for their production require coal; and this Order differs from, and is perhaps a little more complicated on that account than, the Order which applied to the Metropolitan area last winter, inasmuch as it includes, besides coal as a rationed fuel, also electricity and gas.

The basis of this Order, broadly speaking, is to secure a ton of coal for each room up to a maximum of twenty tons per annum, with certain exceptions which I will deal with later on. The Order also makes provision in respect of electricity and gas for lighting purposes, which I agree is very restrictive. It also makes provision, up to a point, for the substitution of gas, electricity, or coke for coal; but all sorts of fuel are rationed by this Order. First of all, the small households are entitled to a maximum of three tons per annum. These are very small households of two rooms. That works out at about 1 cwt. of coal per week for the summer months, and an additional allowance during the colder months of the year. That is for the southern part of the country. In the northern parts, being colder, they are entitled to a more liberal provision, but here again it might be suggested that in relation to actual needs the word "liberal" is hardly appropriate. For a three-roomed house we allow 3 tons 10 cwt.; for a four-roomed house, 4 tons; and for a five-roomed house, 4 tons 10 cwt. In so far as this particular class of dwelling-house is concerned—dwelling-houses up to five rooms—so far as we have been able to ascertain, the ration which is allowed will not impose any hardship upon the user. As regards the two or three-roomed houses, it imposes no hardship whatever. It is the same amount of coal as they have always been accustomed to buy. It is the amount they secured before the war.

As regards dwelling-houses up to five rooms, all that we have done is to reduce their consumption by about 10 per cent., and I do suggest that a reduced consumption of 10 per cent. throughout the year cannot possibly be considered as inflicting any hardship. In houses from six up to twenty-one rooms there is an additional 1 ton of coal allowed up to a maximum of 20 tons. There is an exception to this scale which the householder is entitled to claim, and an allowance that will be made, if the fact is stated in the form of application which each householder is required to fill in, and that exception is where the regular residents of a household exceed six and where the number of rooms does not exceed twelve, one extra ton of coal is allowed. There are other exceptions.

The Order makes provision for the establishment in each locality of a local fuel overseer and for the establishment of a representative committee by the local authority. This Regulation applies throughout the kingdom, with the exception of the Metropolitan area. Provision is made for an appeal on any point from the committee or the local fuel overseer to the Coal Controller. The difference between London and the outside areas is that in London the appeal goes direct to the Coal Controller without passing through the fuel overseer or the local committee.

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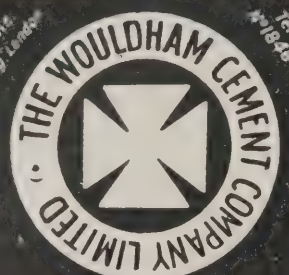
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times it was a wise choice to adopt the second alternative.

The treatment proposed is boldly ingenious. Until the lowest stage of the central tower has been erected, and the wide

central area has thereby been provided, the choir will be somewhat unsuitable for use with great congregations present, since many would be round the corner out of sight. It is therefore intended that the great transept, with the construction of which the section now ordered to be built will be complete, shall in its entirety serve as a church, and be used for large gatherings, the seats being arranged east and west, an altar, with lofty reredos, occupying the true east end, whereas the choir faces south. Of this church the Memorial Chapel will furnish, as it were, the chancel, with a floor space of 52 ft. square,

the total length of the transept-church being about 200 ft. The chapel will be 97 ft. high, some 14 ft. higher than any existing English interior. The great two-light east window, some 90 ft. high, will be filled with glass illustrating notable contests under the Lord as "a man of war," the unexampled width of the lights (7 ft.) allowing of a series of well-marked groups of figures. A lofty and elaborate reredos with wings painted with twenty commemorative scenes, will occupy the space between the window and the Holy Table. In the centre of the chapel, within a space chained off by four angel-figures, and on a low platform of marble, an alabaster cenotaph will stand on a base of black marble, and on it will be placed in a bronze casket under glass an illuminated volume, containing the names to be commemorated, engrossed on lambskin, the whole to be practically imperishable.



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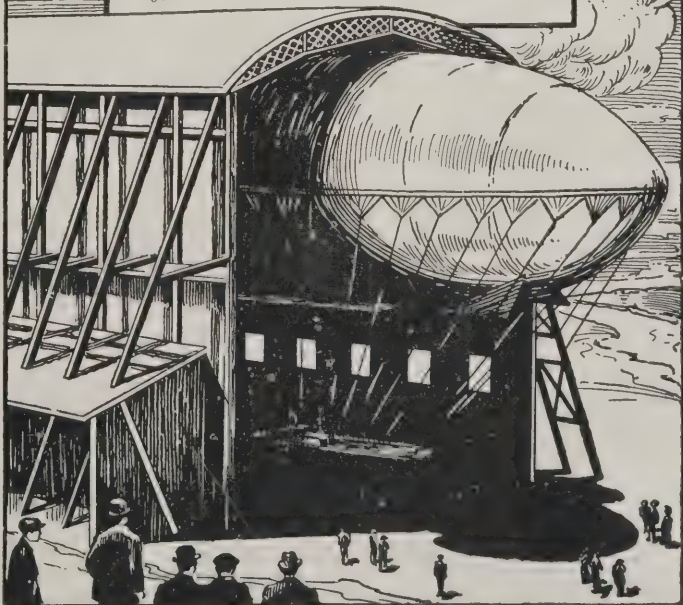
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## MISCELLANEOUS.

August 30.—**BUILDING MATERIALS, Etc. London, S.E.**—Supply of building materials, engineering goods, ironmongery, and leather for twelve months for the Guardians of the Poor of the Parish of St. Giles. Forms and particulars from Chas. E. Stevens, Clerk to the Guardians, Guardians' Offices, 89, Peckham Road, S.E.5, to whom tenders are to be sent.

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September 3.—**VARIOUS SUPPLIES, London, N.**—Supply of undermentioned articles, inter alia, to the several institutions of the Guardians of the Poor in the parish of St. Mary, Islington, from October 1, 1918: For six months—Furnishing, ironmongery, general ironmongery, painters' colours and oils, earthenware, timber, building materials. Forms of tender may be obtained from the Clerk personally, or a stamped, addressed, brief-size envelope may be sent. Tenders must be delivered to Edwd. Davey, Clerk, Guardians' Offices, St. John's Road, Upper Holloway, N.19.

## LONDON DOCK IMPROVEMENTS.

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(Continued on p. xiv.)

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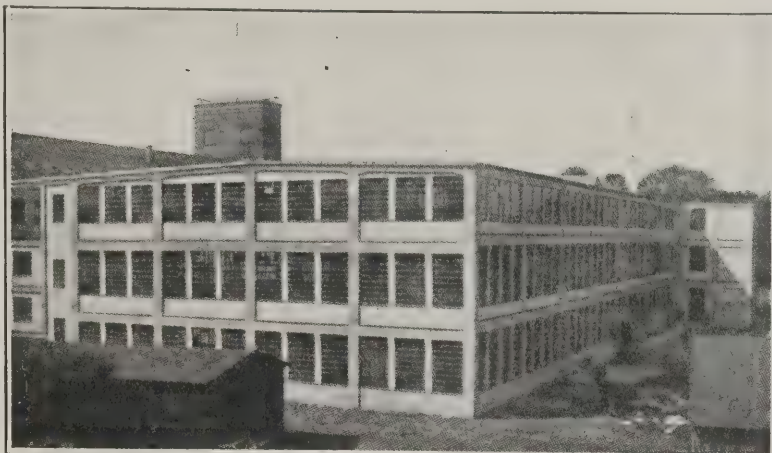




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(Continued from p. vi.)

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## NEWS ITEMS.

*Change of Address.*

Their offices at Regent House, Kingsway, having been commandeered by the Government, Messrs. Trehearne and Norman have taken offices temporarily at 68, Lincoln's Inn Fields, W.C.2. Telephone number Holborn 896.

*Sale of a Wexford Cement Works.*

Mr. M. J. O'Connor, Crown Solicitor, Wexford, acting on the part of a London syndicate, has purchased Mr. Cooper's Cement Works, at Drinagh, Wexford, for £17,000. The works are situated about a mile from Wexford Town. The purchase includes about sixty acres of land.

*Builders' Strike in Dublin.*

The strike in the Dublin building trades is at present confined to the working men in the city, but it is feared that if a settlement is not reached it may extend to large works in the neighbourhood of Dublin, where several thousand men are employed. The number of men affected so far does not exceed 10,000.

*London Hotel as Hospital.*

The Office of Works have procured for the War Office the Hotel Petrograd, in North Audley Street, W., for use as a hospital for Canadian troops. The hotel, which is quite modern, is reported to be eminently suitable for the purpose for which it has been acquired. The conversion of the building, it is stated, is not likely to prove an expensive operation.

*Fulwell's New Sea Wall.*

A new sea wall and promenade has been opened at Fulwell, a suburb of Sunderland. The improvement has been carried out by Mr. Henry Bell, of Ryhope, at a cost of £7,000. The wall is of solid concrete faced with granite blocks, and is 600 ft. long with a depth varying from 20 to 30 ft. It is 27 ft. wide, and affords seating accommodation—the seats being let into the solid concrete—for 500 persons.

*Promenade Extension at Llangollen.*

The Llangollen Town Improvement Association have completed the purchase of land adjacent to the river Dee at Llangollen, which will enable them to continue and control the foreshore of the river for a considerable distance beyond the Victorian Promenade, and to contemplate the provision of pleasure gardens on the banks of the river. The land acquired lies between the Dee and the Holyhead road.

*An Accommodating Building.*

At Reigate recently a Mitcham resident was summoned in respect of a building he had erected at Horley, without depositing plans. The surveyor said the building would do for an assembly room, a chapel, or a dwelling house. It was of corrugated iron, and defendant had had it removed from Gatwick Racecourse, and intended to use it at week-ends. Defendant, who did not appear, was fined 40s. and 21s. costs.

*Industrial Development at Swansea.*

A scheme of industrial development proposed in the Swansea district involves the erection of a number of workmen's houses, and 350 acres of land have been acquired on the Earl of Jersey's estate, together with 3,000 acres of coal, the latter forming part of a virgin coalfield. An abundant supply of water for works purposes exists on the land, and the coal measures, railway facilities, and the contiguity of the Swansea

docks makes the site an ideal one for the scheme, in which Messrs. Baldwins, Limited, are the prime movers. It is expected that the expenditure will amount to considerably over a million sterling.

*Dock Scheme and Housing Needs.*

The Queenstown Dry Docks Company, who lately bought the docks situated at Rushbrooke, recently took proceedings against one hundred individual occupiers of houses situated west of the docks, the area being required for the purpose of extending the dry dock. The magistrates dismissed the summonses on the ground that other accommodation has not been provided for the occupants of the houses.

*Builders' Post-War House-building Association.*

An association of house-builders has been formed in Bradford. It is in touch with the National House Builders' Association, and its members are mostly pre-war builders of the city. One of the objects is to make arrangements with the Government for house building after peace has been declared. Representations are to be made on behalf of, and assistance sought for, the private building industry.

*A New Use for Concrete.*

To build gun-boring machines, which require very long ways, it is necessary to have exceptionally long planing machines. As time is an important element in the war, interest attaches to two somewhat novel metal-planing machines recently built by the Amalgamated Machinery Company, of Chicago, in which concrete was substituted for metal. Where finished surfaces are required metal parts are provided, but the bed, platen, housing, and cross-rail are all made of concrete.

*The Kennington Improvement Scheme.*

A period has been set by the war to Messrs. Adshead and Ramsey's elaborate rebuilding scheme on the Prince of Wales's South London estate. Row after row of houses there is boarded up and uninhabited, and cabbages are growing on the site of one demolished terrace. The new church of St. Anselm still consists of but a small pile of unadorned brickwork, and it is clear that a long time must elapse before the imposing "Italian" frontage becomes visible from the Kennington Road.

*Tees-side Wages Award.*

In reply to the demand of the employees of the Tees-side and district building trades for an advance of 5d. per hour, the Committee of Production have given their award, which concedes an advance of 1½d. per hour to bricklayers, plumbers, stonemasons, plasterers, wood-cutting machinists and joiners, stonemasons' fixers, and builders' labourers. A separate award for painters will be issued later. The award is to be regarded as a war wage advance, and will take effect as from the first full pay following September 1.

*Leeds Housing Schemes.*

Following upon the purchase of the Middleton estate at a cost of £45,640 for the purposes of a housing scheme for Leeds, the Development Committee of the Corporation have decided to acquire a further estate on the western side of the city subject to the approval of the City Council and the consent of the Local Government Board. The estate in question is of sixty-three acres at Hawksworth Wood, lying between the populous portions of Kirkstall and Horsforth. The purchase price is understood to be £300 an acre, i.e., £18,900.

## COMPETITIONS.

*The Bolton School.*

We learn that, owing to national conditions, some of the participants in the above competition are finding a difficulty in completing their drawings, and have asked for further extension of time for sending in designs. The trustees and Lord Leverhulme, being desirous of meeting the convenience of competitors in every way, have agreed that designs shall be received up to and including November 30, 1918, in place of September 28.

Clause 19 of the conditions states: "Drawings to be made on white paper of equal size." It is desirable, say the assessors, that this condition should be observed, but competitors may use their discretion in the matter if difficulty occurs.

## TRADE AND CRAFT.

*An Amalgamation.*

Messrs. Gibbs and Canning, Ltd., of Glascoate Works, Tamworth, Staffordshire, have amalgamated their business with that of Mr. James Carroll, 158, Church-street, Deptford, and Messrs. F. Brayne and Co., Ltd., Bow Pottery, Bromley-by-Bow. The title of the firm will remain as Gibbs and Canning, Ltd. (incorporating James Carroll and F. Brayne and Co.). The plant and machinery from Bow Pottery is in course of removal to Deptford, and the London branch of the business will be carried on under the control of Mr. James Carroll, who has been appointed a managing director of the company. The London address will be 158, Church-street, Deptford, S.E.8. Tel. No., 301 New Cross.

INADEQUATE COMPETITION  
PREMIUMS AGAIN.

At a recent meeting of Southport Town Council, Councillor Houldsworth, in moving the confirmation of the minutes of the Public Halls and Markets Committee, referred to a recommendation that the Council be asked to offer premiums of £50, £30, and £20 for plans from architects in the United Kingdom, showing how the old Market Hall site could be utilised in order to provide accommodation for the following purposes, and for any other municipal purpose the Council may decide:—Market Hall, police offices, court rooms, cells, etc., fire engine station, gas office and gas showroom, electricity office and showroom, tramway office, rates office, Water Board office, and a cold storage in the present cellar. It was also resolved that a deputation proceed to Liverpool to make an inspection of the municipal offices there. Councillor Houldsworth said they wanted to have things in readiness at the conclusion of the war. It was suggested that the chairmen of the various committees concerned should meet the Markets Committee before anything was done in regard to the drafting of the advertisements for the architectural work in connection with that scheme.

Alderman Griffiths said he did not see how they were going to get any schemes worth anything for the small premiums offered. These are indeed words of wisdom. Few architects, we imagine, would be attracted by the very inadequate premiums mentioned. Southport Town Council must try again.



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**CORRUGATED** Sheetting.—Sub-contracts for fixing same required; efficient staff of men; distance no object.—Reply J. T., 16, Meads Road, Wood Green, London, N.22.

**DILAPIDATIONS**, Pointing, Brickwork.—J., 8, Station Vale, Station Road, Camberwell, S.E.

**FOREMAN** Painter seeks engagement; practical; used to management of large numbers of men; just finished Government job.—G. Tebbutt, Cargate Hill, Aldershot.

**GENERAL** Foreman seeks re-engagement; thoroughly experienced in all trades; just finished a large War Office contract; first-class references; town or country; trade, carpenter; good timekeeper and manager.—T. B. Highbury, 93, Stanley Road, Wallington, Surrey.

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**THE** Association of Builders' Foremen and Clerks of Works, 56, Old Bailey, E.C.—Experienced Foremen and Clerks of Works can be obtained by applying to the Secretary, Mr. J. W. Sawyer, 214, Clapham Road, S.W. Competent foremen and clerks of works are invited to join this Association.

## Appointments Vacant.

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## Miscellaneous.

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**BOOKS**.—Books on Building Trades, Engineering, Educational, Literary, Technical, and all other subjects; second-hand at half prices; new books at discount prices; catalogues free; state wants; books sent on approval; books bought; best prices given.—W. and C. Foyle, 121-123, Charing Cross Road, London, W.C.

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**WANTED**.—Copies of the "Architectural Review" for November, 1917.—Technical Journals, Ltd., 27-29, Tothill Street, S.W.1.

## Competition.

### BLACKPOOL.—VICTORIA HOSPITAL.

A scheme of extensions is being considered, and applications are invited from Architects willing to submit competitive plans.—Edward Leech, Hon. Secretary, Victoria Hospital, Blackpool. 186

## Educational Announcements.

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Special personal system of preparations by correspondence or private tuition, Bond and Batley (A. G. Bond, B.A., Oxon, A.R.I.B.A.), 96, Grosvenor Road, S.W. Tel. 7036 Victoria.

### THE SOCIETY OF ARCHITECTS' GRADUATESHIP AND MEMBERSHIP EXAMINATIONS.

Candidates who desire to sit for an examination in October are requested to notify the Secretary at 28, Bedford Square, W.C.1, before September 9, 1918. 184

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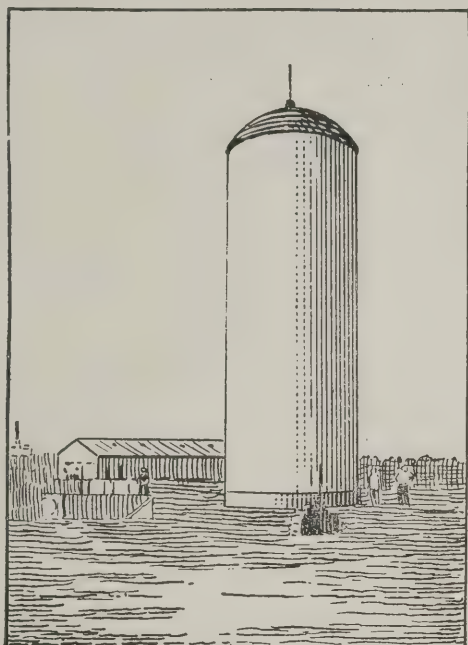
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## MISCELLANEOUS.

September 18.—**BUILDING MATERIALS, ETC. Farnham.**—Supply, inter alia, for one or three months, of building materials and ironmongery for the Guardians of the Union. Tender forms can be obtained from the Clerk on sending stamped addressed envelope. Tenders to be sent to Ernest Crundwell, Clerk, South Street, Farnham.

September 19.—**BUILDERS' MATERIALS. London, S.E.**—Supply of builders' materials, inter alia, to the workhouse, infirmary, and dispensaries in the parishes of Plumstead, Woolwich, and Charlton for three months, commencing October 1, 1918, for the Guardians of the Woolwich Union. Forms of tender containing all information, may be obtained at the Clerk's Offices, at the Workhouse. Tenders must be sent to the Union Workhouse.

## MILITARY BUILDING WORK IN THE UNITED STATES.

Building operations to provide housing for the soldiers of the American army in training and for the manufacture and storage of supplies for the army, as completed and under construction on June 1, represented a total cost of £256,000,000.

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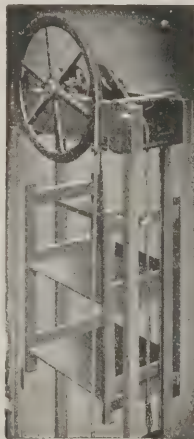
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# LATE CONTRACTS, ETC.

## BUILDING.

September 16. — **SANATORIUM PAVILION. Tehidy (Cornwall).**—Erection of a new pavilion at Tehidy Sanatorium according to the plans and specifications, which may be seen by appointment at Tehidy, for the Tuberculosis Committee of the Cornwall C.C. Forms upon which all tenders must be made and all particulars relating to the work may be obtained from E. H. Crispin, Architect, County Hall, Truro. Tenders to be sent to the Clerk to the Council, County Hall, Truro.

No date.—**EXCAVATING, etc. Derby.**—Excavating and preparing ground in connection with the laying down of a motor weighbridge, together with the erection of a small office building in connection therewith, at the Guardians' Institution for the Guardians of the Derby Union. Specifications and form of tender can be obtained from the Clerk to the Guardians, Poor Law Offices, Derby.

## PAINTING

No date.—**PAINTING INSTITUTE. Penzance.**—Painting windows, doors, etc., of the Penzance Sailors' Institute. Further particulars from the Secretary, B. J. Trewavas, Harbour Office, Penzance.

## SANITARY ENGINEERING.

September 25.—**SEWER EXTENSION. Coudson and Purley.**—Sewer extension at Coudson, consisting of about 500 yards of 9-in. pipe sewer, manholes, etc., for the U.D.C. Forms of tenders may be obtained and plans inspected at the offices of A. Clark, Acting Surveyor, Council Offices, Purley. Tenders must be delivered to E. J. Gowen, Clerk, Council Offices, Purley.

## MISCELLANEOUS.

September 17. — **PAINTERS', GLAZIERS', AND PLUMBERS' MATERIALS. Brighton.**—Supplying the Poor Law Institution and Warren Farm Schools with, inter alia, painters' and glaziers' and plumbers' materials for the Guardians of the Poor. Samples of articles are exhibited at the Poor Law Institution Stores. Conditions of contract and forms of tender may be obtained from Horace Burfield, Clerk to the Guardians, Parochial Offices, Prince's Street, Brighton.

September 20. — **CHESTNUT FENCING. Manchester.**—Supply and erection of chestnut fencing, etc., for allotments at Edge Lane, Clayton; Briscoe Lane, Newton Heath; for the Corporation. Plans may be seen, and specifica-

tions, bill of quantities, and form of tender obtained, on application at the City Engineer's Office, Town Hall, Manchester, on deposit with the City Treasurer of the sum of £1 is. Cheques or postal orders are to be made payable to the order of "The Corporation of Manchester." Tenders, enclosed in the official envelope and addressed to the Chairman of the Small Holdings and Allotments Committee, are to be delivered at the City Engineer's Office.

## Housing and the Land Question.

At the annual conference, at Derby, of the Labour Housing Association, Mr. J. W. Ogden, Chairman of the Parliamentary Committee of the Trades Union Congress, who presided, said that, according to a report recently issued under the chairmanship of Sir J. Tudor Walters, the present requirements for "working-class houses" were 500,000, and to meet the needs of an increasing population an annual supply of 100,000 dwellings was required. Housing, he said, was mixed up with the land question, and it was impossible to deal with one problem without the other.

## Publisher's Notices.

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## ELECTRICAL NOTES.

*Hints on Lighting Economy.*

The onset of chilly weather, the rapidly darkening evenings, and the new lighting restrictions of the Government combine to create for all light and fuel users difficulties that can only be regarded with feelings of apprehension. In the national interest coal has to be severely economised; thus all consumers must make considerable reductions in their use of fuel and light for household purposes, no matter whether the coal be burned in its raw state or indirectly in the form of gas and electricity. Any excess of consumption is likely to be met by an abrupt cutting off of supplies and possibly by heavy monetary penalties. Hence all consumers must ration themselves very strictly if they wish to avoid the clutches of D.O.R.A. Some useful hints on lighting economy are given in a small folder just issued by the British Thomson-Houston Co., Ltd. It is explained that, by the provisions of the revised Household Fuel and Lighting Order, 1918, consumers receive an allowance of fuel, and also a supplementary allowance of gas and electricity for lighting, based on the number of rooms occupied. (These allowances are set out on the back page of the folder.)

Consumers may, however, in addition to this allowance, take part of their fuel ration in the form of electric current, one ton of coal being regarded as equivalent to 800 units, and may thus apply part of their fuel ration to supplement their lighting allowance. The allowance of electricity used in any quarter must not exceed one-third of the *total* allowance for the year.

"The reduction you are called upon to make," says the pamphlet, "is not difficult to accomplish if you set about it in the right manner. Do not begin by turning out half the lights in the house, and leaving rooms and passages in semi-darkness. Working by insufficient light is bad for the eyes; living in semi-darkness prejudicial to health and spirits.

"Keep your lamps bright by renewing them—the light deteriorates from old lamps. Old lamps consume as much as new but give much less light.

"Having got the right lamps, see they are efficiently used. Equip them with proper reflectors (such as veluria or holophane), directing the light where it is chiefly needed.

"Avoid ornamental glass or silk shades which merely absorb light—not infrequently wasting 75 per cent. of the light. Dining-table lamps with silk flounces particularly need to have reflectors inside over the lamps. Keep lamps and reflectors clean. Dust on lamps and reflectors wastes a great deal of light—if they are cleaned regularly one can do with smaller lamps consuming less.

"Use only small lamps for landings and passages. If stairs are in constant use, light them economically.

"Only switch on those lamps actually needed, and turn them off when no longer required.

"Avoid dark wall papers or dark tints of walls. Keep walls and ceilings of room as near white as possible and keep them clean. Watch your meter, and keep a record of its register."

The folder also includes a useful little article on "How to Read Your Electric Light Meter," and a table of the sizes and capacities of Mazda lamps.

*A Handbook on Incandescent Electric Lamps.*

We have also received from the British Thomson-Houston Company, a new edition of their very excellent little handbook on standard incandescent electric lamps. This is called Handbook No. 1a, and is a revised and fuller edition of their first lamp handbook No. 1. The appreciation of and demand for the first handbook have prompted the company to issue this second edition, in which are given the latest revised association sales, rules, etc., on incandescent electric lamps.

*A Useful Watertight Lantern.*

Messrs. Simplex Conduits, Ltd., of Birmingham, have lately issued a mailing card (No. 676) dealing with their new deep watertight lantern, of which the following is a short description: The lantern is cast with a deep recess in the top, into which the lampholder goes. The deep-cast body and standard well glass make a pleasing, well-balanced combination and avoid the necessity of stocking extra deep well glasses, which at the present time are more difficult to obtain than the standard glasses. This deep body lantern used with a new sheet metal shade throws the light downwards, and none of it is wasted by horizontal rays. The inner reflecting surface is white and gives an excellent light on the ground if regularly cleaned. Messrs. Simplex Conduits will be pleased to send this card to readers on request.



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## BUILDING

No date. — **WORKS EXTENSION.**  
**Redditch.**—Extensions to the electricity works, Redditch, for the U.D.C. Builders desirous of tendering are requested to send

in their names at once to the architect, F. F. Bayliss, 18, Unicorn-hill, Redditch, when bills of quantities will be supplied.

## Women and Housing.

At a recent conference on housing the Standing Joint Committee of Industrial Women's Organisations brought up a resolution demanding accommodation for the houses of the people. On a vote being

taken on the resolution and the amendments, it was resolved that plans should reach a certain minimum, giving three bedrooms and a separate bathroom, habitable apartments to be installed with a scientific system of ventilation, and that in view of the acute shortage of housing accommodation the Government should permit local authorities to build houses during the war period.

## Educational Announcements—continued.

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# LATE CONTRACTS, ETC.

## BUILDING.

November 13. — **BUILDINGS AND COAL BUNKERS.** Bedford.—Corporation invites tenders for the erection of buildings and reinforced concrete coal bunkers. Copies of drawings and specifications may be obtained from the Engineer, Electricity Works, Cauldwell Road, Bedford, on deposit of £1. Additional copies of the specification will be supplied at 5s. each. Sealed tenders, marked "Buildings," to be delivered not later than noon on November 13, 1918, addressed to the Chairman of the Electricity Committee, Electricity Works, Cauldwell Road, Bedford. Chas. Stimson, Town Clerk.

## ENGINEERING.

October 11. — **COAL CONVEYING PLANT.** Manchester.—Supply, delivery, and erection at their Stuart Street station of coal conveying plant for boilers Nos. 49 and 50, for the Electricity Committee of the Manchester Corporation. Specification, drawing, and form of tender may be had on application to F. E. Hughes, Secretary, Electricity Department, Town Hall, Manchester. Further particulars and information can be obtained on application to S. L. Pearce, Chief Engineer and Manager, Dickinson Street, Manchester. Tenders, duly endorsed, and addressed to the Chairman of the Electricity Committee, must be delivered at the Town Hall not later than 10 a.m. on October 11.

October 19.—**WELL.** Battle (Sussex).—Battle Urban District Council invite tenders for the sinking at per foot, steining, and completion of a new 5-ft. well about 50 ft. deep, at their cottages at Netherfield Hall, Battle. The steining of the top 5 ft. to be set in and backed with cement, and a solid concrete curb to be carried 6 in. above the surface. All material and cartage thereof to be provided by the Council, who will remove the soil taken out. Tenders to be delivered not later than October 19, marked "Tender for Well," to F. C. Sheppard, Clerk, Battle.

## MISCELLANEOUS.

October 12.—**DEMOLITION WORK, ETC.** Swinton.—Tenders are invited for the purchase, pulling down, and the removal from the site of the materials of the old residence known as Swinton Lodge, Swinton Park, Swinton. These comprise a large quantity of lead, iron, slates, stone, bricks, etc. Tenders must be delivered not later than October 12. Further particulars and permission to view can be obtained upon application to J. R. Bridgford and Sons, 65, King Street, Manchester.

October 14. — **VARIOUS STORES.** Gellygaer.—The U.D.C. invite tenders for the supply of following materials: Limestone; paving, kerb, and channel; drain pipes; cement and lime; cast-iron goods; smithwork; ironmongery; brushes; oils and paint; oilskin suits; shoeing; harness repairs. Form of tender can be obtained from T. Rees Gabe, Acting Surveyor, Council Offices, Hengoed, Glam. Sealed tenders, endorsed "Stores, etc.," must be sent to Frank T. James, Clerk, Council Offices, Hengoed, Glam.

October 23.—**COPPER WIRE, ETC.** Pretoria (South Africa).—The "Government Gazette" of the Union of South Africa announces that tenders are invited by the Department of Posts and Telegraphs for the supply and delivery to that department of copper wire, etc., and telephone apparatus (including bells, blocks, boxes, coils protectors, rosettes, switches, switchboards, etc.). Specifications and samples of the wire can be viewed at, and forms of tender obtained from, the Controller of Post Office Stores, Room 62, Palace of Justice, Pretoria, the District Stores Clerks, Cape Town, Johannesburg, Port Elizabeth, East London, Pietermaritzburg, and Bloemfontein, and the Postmaster, Durban. Sealed tenders, on the proper forms, will be received by the Chairman of the Union Tender Board, Union Buildings, Pretoria, up to 3 p.m. on October 23. A copy of the "Government Gazette," giving the quantities and descriptions of the articles required, may be consulted by United Kingdom manufacturers of the above-mentioned articles at the Inquiry Office of the Department of Overseas Trade (Development and Intelligence), 73, Basinghall Street, E.C.2. This intimation will be of use only to firms having agents in the Union who can be instructed by cable.

military service. His case will be heard by a tribunal in the ordinary way, but the tribunal will be guided by the fact that the applicant is included in the list, and the National Service Representative will only in very exceptional circumstances oppose his exemption.

Following are the reservations relating to the Building, Wood-Working, and Allied Trades:

Code No.		Man certified if born in or before the year stated.	
		Grade I.	Grade II.
	Building Trade (including Decorating, Painting, Renovating, or Repairing of Houses or other Buildings); Sawmilling, Planing, and Joinery Works:		
364 (a)	General Foreman; Clerk of Works; Foreman; Under Foreman or Charge Hand; Ganger	1879	1885
365 (b)	Chimney Shaft Builder or Repairer	1892	1893
366 (c)	Retort or Furnace Brick Setter; Baker's Oven Builder or Repairer	1888	1890
367 (d)	Plumber; Scaffolder; Crane Driver	1884	1885
368 (e)	Circular Sawyer; Frame Sawyer; Band Sawyer; Band Mill Sawyer; Moulding Machinist; Planing Machinist; Spindle Moulding Machinist; Slater	1882	1885
369 (f)	Mason; Concrete Block Maker; Concrete Mixing Machine Attendant; Bricklayer; Joiner; Carpenter; Plasterer	1879 1874	1885 1880
370 (g)	Painter	1874	1875
371 (h)	All other classes of workmen	1874	1875

\* To be within the certification, a man in Grade III, must have been born in or before the year 1883.

## REVIVAL OF APPRENTICESHIP.

It is universally recognised that an improvement in former methods of juvenile employment must play an important part in any scheme of economic reconstruction after the war, and there is evidence to show that an increasing interest is being felt throughout the country in the possibility of establishing, or reviving, an apprenticeship system under conditions appropriate to modern industry.

The Board of Trade Journal states that the Juvenile Advisory Committees set up by the Ministry of Labour have, for some time, worked in this direction, and in London schemes of apprenticeship in the building trades and for the employment of learners in the dress-making and allied trades have been adopted; while many large firms in the provinces have special arrangements in operation for the training of young workers.

## Publisher's Notices.

Offices: ADVERTISEMENT, EDITORIAL, COUNTING HOUSE, AND PUBLISHING—27-29, Tothill St., Westminster. Telegraphic Address: "Buildable, Vic., London." Telephone: ADVERTISEMENT, EDITORIAL, COUNTING HOUSE, AND PUBLISHING—6936 Victoria (2 lines). Date of Publication.—THE ARCHITECTS' AND BUILDERS' JOURNAL is published every Wednesday, price 6d. The Subscription Rates per annum are as follows:—

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By post to Canada ...	1	10	0
By post elsewhere abroad ...	1	12	6

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## BUILDING TRADE EXEMPTIONS FROM MILITARY SERVICE.

We have received from the Ministry of National Service a copy of the new list of certified occupations. The document explains itself, but it must always be remembered that the inclusion of a man in the list does not in itself exempt him from

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## ELECTRICAL NOTES.

*The Electrical Industry in Australia.*

The Report on the Trade of Australia during 1917 by H.M. Trade Commissioner (Mr. G. T. Milne) has been issued as a Parliamentary Paper [Cd. 9163. Price 3d.]. It contains an interesting statement concerning the possibilities of development in the electrical industry. The market for electrical machinery and equipment of every kind, it is stated, is important and certain to grow rapidly. Various schemes for the production and transmission of electrical energy are under consideration at present, but are held up owing to the war. The United Kingdom's chief competitor in this trade is the United States, although Italy and Sweden also contribute. As regards appliances other than machinery, Japan has made rapid progress. Recently, a Japanese firm introduced a wire-covered cable with a label attached to the coil bearing the letters "C.M.A.," the obvious inference by the uninitiated being that the firm is a member of the Cable Makers' Association. As the result of representations made by Mr. Milne to the Department of Customs, it has been decided to regard the letters "C.M.A." or the word "Association," when unqualified, as indication that the manufacturer of the goods is associated with the British Cable Makers' Association, and that the goods have been manufactured in accordance with the specification of that Association. It has also been decided that statements such as "guaranteed equal in all respect to C.M.A. product of similar grade" may be used on wires and cables manufactured by non-members of the Cable Makers' Association, provided that the goods are thereby correctly described. The latter part of this somewhat important decision appears to throw on the Customs Department the obligation of seeing that the goods are correctly described.

*The Lighting of Munition Works.*

The great Munitions Works of Coventry and Birmingham, while their output is ever increasing, are obtaining remarkable results in fuel and light economy. Saving, to help minimise the effects of the great coal shortage, is worked on system, and much ingenuity is shown in perfecting works arrangements, says an article in the "Board of Trade Journal." The magnitude of their fuel and light requirements has startled experts. In one establishment, typical of a score, the consumption is 200,000,000 cubic feet of gas—equal to 18,000 tons of coal—per annum and 13,000,000 units of electricity, or about four times the electric consumption of Watford with its 50,000 inhabitants.

A well-known expert, who has completed an investigation for the Coal Controller, finds that the conditions in Coventry and Birmingham are much better than in London, where, however, preventable waste is for the most part confined to the smaller and less well organised establishments. In individual works the leakage may appear small, but in the aggregate it represents an enormous waste of coal which in the national interest must be abated. To secure this end the co-operation of the workpeople is essential, and an appeal for their assistance is being made by the Coal Controller.

The means of saving successfully applied in certain Midland works are:

A careful grading of illumination to suit various classes of work.

Abolition of local lighting for separate machines and the substitution of general lighting with suitable reflectors and larger units such as the  $\frac{1}{2}$  Watt metal filament lamp and mercury vapour lamps.

A systematic patrol of the works to ensure that no unnecessary lights are kept burning.

Appointment of economy engineers whose sole duty is to supervise the operation of plant to secure the most economical results.

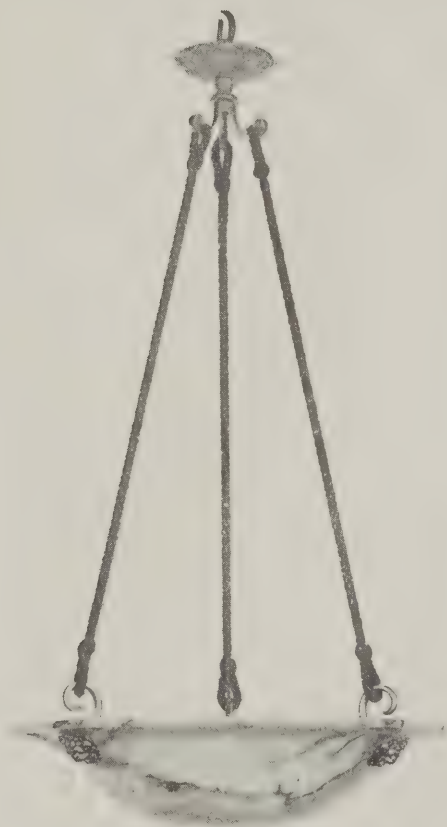
Periodic relining of shafting to reduce power consumption.

Burning sawdust in steam boilers. One works saves 600 tons of coal per annum by this substitution.

Keeping down the temperature of workshops. In one well-known establishment the temperature is fixed at 55 deg. Fahr.

*Engineering Works Acquired by the G.E.C.*

The General Electric Company, Limited, announce that they have completed the purchase of the Erith Works, and of the goodwill of the manufacturing business hitherto carried on by Messrs. Fraser and Chalmers, Limited. Practically the whole of the personnel have transferred their services to the G.E.C., who will carry on the business as a going concern and under the title of Fraser and Chalmers Engineering Works, proprietors the General Electric Company, Limited.

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## COMING EVENTS.

THURSDAY, OCTOBER 24.

London Society.—Meeting in the Hall of the Society of Arts, 18, John Street, Adelphi, W.C.2, at 4.30 p.m., to consider

the threatened appropriation of the Adelphi by the Air Board. The Right Hon. Lord Aberconway, P.C., K.C., has promised to preside.

THURSDAY, OCTOBER 31.

University of London, University College.—Public Lecture by Professor F. M. Simpson, F.R.I.B.A., on "The Cathedrals of the Marne-Aisne District: Reims, Soissons, Laon, etc.," at 5.30 p.m. (Lantern Illustrations.)

*Architectural Craftsmen's Society.*

At a meeting of the Architectural Craftsmen's Society, held in the Society's room in the Royal Technical College, Glasgow, on Friday evening, October 11, Mr. David Skinner (President) in the chair, Professor Charles Gourlay delivered an illustrated lecture entitled "Gleanings from the English Cathedrals." The professor restricted the scope of his lecture to some of the cathedrals he had visited. He compared the design of one cathedral with another, dealing with their situations, external and internal designs, and finally their screens, stalls, wall arcades, and monumental tombs.

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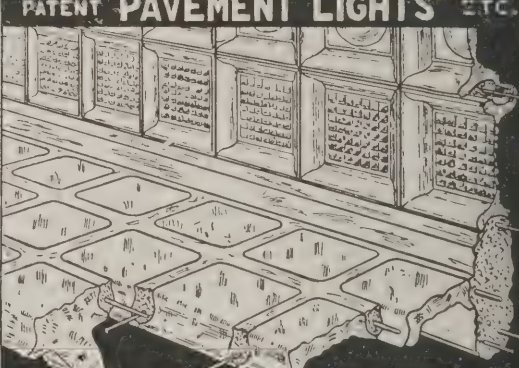
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## NEWS ITEMS.

*Acton's War Memorial.*

It is suggested that the war memorial at Acton should be a new hospital or an enlargement of the present building.

*New Municipal Offices for Stockton.*

Stockton Town Council have instructed their Borough Engineer to prepare a report upon the suitability of the premises of the Borough Hall and adjoining property and the corporation site in Church Row for the purposes of a new town hall and municipal offices.

*New Windows in St. Albans.*

As a memorial to the late Dr. Lawrance, first Dean of St. Albans, and for some time Chaplain-in-Ordinary to Queen Victoria, there have been placed in the retro-choir of St. Albans Cathedral two stained glass windows, one representing the Presentation of Christ in the Temple and the other the Crucifixion.

*Proposed Extension of Belfast Cathedral.*

The Bishop of Down, speaking at the Diocesan Synod in Belfast, referred to the fact that the time was drawing near when they must build another section of the new cathedral in that city. Sir Edward Carson had suggested to him that they should connect in some special way the next portion of the edifice with the war, making it a monument of victory and a memorial of the heroic members of their community who had contributed to the victory.

*Bequest to an Elland Church.*

By the will of the late Mrs. Doherty-Waterhouse, of Halifax, the Church of All Saints, Elland, is to receive a sum of £890. Half of this amount is to be devoted towards the cost of the completion of the church—which has been done since the death of the legator—and the remainder for the maintenance and repair fund of the building. The local churchpeople are undertaking to raise a sum of £300 for carrying out a scheme of decoration, a great part of which remains to be done.

*British Fibrocement Works.*

The British Fibrocement Works, Ltd., has been registered as a private company with a capital of £100,000 in £1 shares to carry on the business of manufacturers of and dealers in textile asbestos, cement, sheets, and tiles, and artificial slates, stone, and marble for building purposes, etc. The subscribers (each with one share) are: F. Beadle, The Elms, Erith, Kent, merchant; G. H. Buxton, White Lodge, Grove Park, Denmark Hill, S.E., merchant. First directors: F. Beadle and G. H. Buxton. The registered office is at Manor Road, Erith.

*The Carillon of Bruges.*

There has been much anxiety for a long time past as to the fate of the famous carillon in the Tour des Halles, Bruges, but there is now definite information that the bells are safe and uninjured. M. A. Nauwelaerts, the present official city carillonneur, who is serving in the Belgian Army, visited Bruges a few days ago, found his house in good condition, having been cared for by his friends, and the bells of the carillon intact. The Germans had cut all the connecting wires of the clavier, but these were readjusted, and very soon the bells were rolling out "La Brabançonne," "The Lion of Flanders," and "God Save the King," to the great joy of

the inhabitants. All lovers of bell music will be glad to know that this fine set has not been destroyed, and there are great hopes now that the magnificent carillon of Malines has survived.

*A Benefactor of Selby Abbey.*

The late Mr. William Liversidge, of Selby, who has just died at the age of ninety-two, will be remembered as the pioneer of the movement which led to the preservation and restoration of Selby Abbey after the disastrous fire of 1906. Mr. Liversidge became churchwarden of the Abbey in 1865, and crowned many benefactions by building the south transept at a cost of £12,000, a portion of the structure which had been lacking for two hundred years. It is stated that a sum of £9,000 will eventually pass to the Abbey by Mr. Liversidge's will for the restoration of the west front.

*Dundee Paviers' Wages.*

Application has been made on behalf of the paviers in Dundee Works Department for an advance of  $\frac{1}{2}$ d. per hour, which, it was stated, would give them the total advance of  $\frac{5}{2}$ d. on pre-war wages which had been awarded to the building trades. Mr. Alexander Spence, the convener, said the paviers were now receiving £3 5s. 7d., and as their wages had been dealt with so recently as September 2 he did not propose to give any further advance just now. Lord Provost Sir William Don seconded. Bailie Gillespie, seconded by Mr. E. Seryngeour, moved that the advance should be conceded, and this proposal was defeated by 6 votes to 2.

*York Painters' Wages.*

The following letter has appeared in the "Yorkshire Herald": "Sir,—In the 'Yorkshire Herald' it was reported that the operative painters of York were to take part in an advance of wages that had been awarded to the operative painters in all towns and districts in Yorkshire by the National Painters and Decorators' Joint Council. The operative painters of York would like it to be known by the public that their application to the York Master Painters' Association for this award has been refused.—J. H. Dent, Secretary, National Amalgamated Society of Operative House and Ship Painters and Decorators. York, November 6, 1918."

*Opera House for Manchester.*

Sir Thomas Beecham has written to the Manchester Corporation generously offering to build an opera house in that city at his own cost. Sir Thomas undertakes that it "shall be of size and importance not less than those of any other opera house in London or any Continental town, with the exception of Paris and Petrograd." For ten years Sir Thomas Beecham will defray the cost of the undertaking, and will himself be solely responsible for its management. At the end of that time the city, we understand, assumes financial responsibility, which by that time may well be non-existent, but Sir Thomas Beecham stipulates that during his lifetime he shall have "the right to appoint in connection with the control and management of the building all those persons that comprise the staff—business and artistic," also that he shall "draw up a constitution for the future government of the opera house," subject to the condition that any arrangement which may possibly involve a charge upon the city shall be subject to the approval of the City Council.

*Building Materials in British Columbia.*

Included in the annual report of the Minister of Mines for British Columbia for 1917, just issued, it is stated that the total value placed on the structural materials produced in 1917 is 1,204,546 dols. in the following proportions: Portland cement, 587,829 dols.; lime and limestone, 102,223 dols.; building stone, 113,275 dols.; riprap, 28,170 dols.; crushed rock and flux, 138,830 dols.; sand and gravel, 61,642 dols.; pottery and clay, 81,728 dols.; fire, face, and red brick, 190,849 dols.; total, 1,204,546 dols. Figures are not at hand for a comparison of 1917 production with that of preceding years, except as appearing in the general table of production for four years, 1914-1917.

*Memorial Window, Hexham Abbey.*

A new west window has been inserted in the new nave of Hexham Abbey, in memory of the late Mr. C. W. C. Henderson, of the Riding, Hexham. The subject had already been chosen before Mr. Henderson's death, as it had always been his desire to have this great west window filled with a representation of those of the northern saints who have been most closely associated with the evangelisation of Northumbria and the cathedral church of the town. This plan has been carried out, and the design consists of three tiers of panels, the two upper being filled with large single figures of the saints of Northern England, and the third with subjects illustrating episodes in their history. The style of the window is a free rendering of that of the fourteenth century, with bright rich colours appropriate to the period and the position of the window. The artist is Mr. H. T. Bosdet.

## NEEDS OF THE BUILDING TRADE.

The Minister of Labour states, in reply to Mr. Duncan Miller, that provision has been made for the early release of men for whom employment is waiting, or who belong to a trade to which priority has been given. The claims of the building trade will be considered on their merits when the time arrives. The Department was in communication with the Building Industrial Council, which covers Scotland, with regard to the selection of a limited number of pivotal men in the trade for whose release in advance of general demobilisation it is hoped that it may be possible to make arrangements.

Lord Wolmer has asked what is the estimated quantity of bricks required for the building of 300,000 houses after the war; and whether their cost, or the price the Government would be prepared to allow for them, could be stated. Dr. Addison writes in reply: I understand that the quantity of bricks required for the building of 300,000 houses is estimated at approximately 6,000,000,000. It is, however, obvious that in any estimate which may be made there are a good many variable factors, as, for example, the consideration of alternative methods of construction. With regard to the latter part of the question it is not possible, under existing conditions, to give a reliable estimate of post-war prices. Dr. Addison states, in reply to Major Sir Henry Havelock-Allan, that he has received an interim report from the Surplus Government Property Advisory Council, but, as the questions arising out of that report are now being considered by the Cabinet, he does not see his way to making it public.



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Preliminary Notice.

**SALISBURY.**

**IMPORTANT SALE OF PROPERTY.**

**WOOLLEY AND WALLIS** are favoured with instructions to Sell by Auction at their Sale Rooms, The Castle Auction Mart, Salisbury, on Friday, November 29, 1918, at 3 o'clock, the following valuable freehold properties, comprising house and shop, known as 102 and 104, Fisherton Street; shop, known as 85, Fisherton Street; two semi-detached villas, known as 71 and 73, Harnham Road; four ditto, known as 12, 13, 14 and 16, Folkestone Road; house, known as 13, Wyndham Terrace; together with five plots of building land, situated in Folkestone Road, Harnham, and about 2½ acres of building land, with frontage to Harnham Road of about 175 ft.

Further particulars of the Auctioneers, The Castle Auction Mart, Salisbury; or of Messrs. Nodder and Trethowan, Solicitors, Salisbury.



## The Verdict of Science

has long been given in favour of radiation as a method of warming dwelling-rooms.

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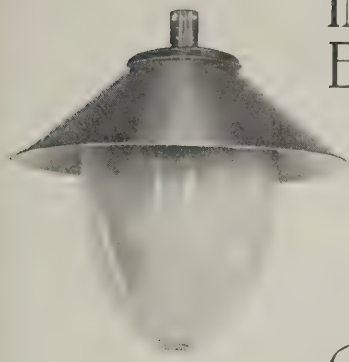
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## ELECTRICAL NOTES.

### *Electricity for Domestic Purposes.*

The Report of the Tudor Walters Committee on Housing, to which reference is made elsewhere in this issue, contains the following interesting observations with reference to the use of electricity in small houses:

The popularity of electric lighting in cottage dwellings is undoubted; not only does it save considerable expense in white-washing ceilings, redecorating walls, etc., but it has a much more important advantage as compared with gas, in that this light consumes no oxygen and does not vitiate the air. . . . It appears (the report states) that finality has not yet been reached in regard to methods of wiring and supply. Evidence was given showing that individual connections to each cottage involve considerable additional cost in proportion to the advantage gained. We think that the question of a common supply from the main in the street for each group of cottages should be carefully considered.

There are three chief systems of wiring in general use:

1. The wires are laid in a wooden casing with a thin capping fixed over them, the casing being run on the surface of walls, ceilings, etc.; it may be run under floors, but must not be buried in plaster or cement.

2. Wires are run in steel conduits with slip joints.

3. Wires are run in steel conduits or tubes with all joints screwed.

No. 1. The wooden casing is liable to be scamped in places out of sight. It cannot be tested. It is easily damaged by the driving of nails, which may impair the insulation of the wires.

No. 2 is not allowed by the Institute of Electrical Engineers' Wiring Rules; one reason being that it is not considered possible to obtain electrical continuity owing presumably to the preservative coating on the tubes. With the screw connections, however, complete continuity is obtained and it is practicable to test the system as a whole.

No. 3 is considered the best of these systems. It is, however, expensive, and there is some little danger of the wires being damaged when drawn through the tubes owing to sharp edges due to the threading of the tube ends for screwing.

Evidence was given that up to 250 volts wooden casing was quite good, if placed in such positions that it was not liable to injury, and did not offer a temptation to its use as a picture rail

or for other similar purposes involving the driving of nails. Evidence was also given that the steel conduit with slip joint had been largely used and could be quite safely recommended for cottages, seeing that the amount of current to be dealt with was extremely small; with proper care in the removal of the preservative compound from the ends of the conduit and the fittings, electrical continuity should be secured. It was suggested also that the best system, if it could be adopted, would be to have conduits or ducts of fire-resisting material incorporated in the buildings. It would seem that, if the wooden casing could be replaced by some fire-resisting composition, which, while being readily fixed, would be free from some of the objections to the former, this might prove to be the most satisfactory system of wiring. Apart from the system of metal tubes with screwed joints, there appears to be some difference of opinion as to the advantages and disadvantages of the other methods. There was agreement, however, as to the economy which would result from having a carefully prepared wiring plan for each type of cottage and making provision for the wiring as the building proceeded, so as to save unnecessary labour in cutting and fitting afterwards.

### *Lighting and Industrial Accidents.*

As showing the value of good lighting in connection with the reduction of accidents, the records of the Travellers' Insurance Company of the United States give the following interesting results.

Of 91,000 industrial accidents recorded in 1910, 23.8 per cent. were due directly or indirectly to poor lighting. It should be noted that this record refers only to the accidents investigated by this one insurance company. For the same period an estimate is made that puts the total industrial accidents of the United States at 500,000 and, on the basis of the Travellers' Insurance Company's percentages, about 125,000 of these accidents were chargeable to the lack of proper illumination eight years ago. Since that time insurance companies have studied lighting conditions in factories in order to classify the risk and, as proper lighting resulted in lower premiums, it was not long before factory managers and their engineers worked out better methods of illumination.

The result of this is that during the last two or three years the improvements in lighting have caused a reduction of at least 30 per cent. in accidents which are chargeable to the lack of proper illumination.



LATE CONTRACTS, ETC.

PAINTING.

November 22.—**PAINTING POLICE STATIONS.** **Cumberland.**—Tradesmen desirous of tendering for outside painting works at the undermentioned police stations for the County Council are requested to forward their names to George Dale Oliver, F.R.I.B.A., County Architect, Carlisle:—Carlisle (Abbey Street), Cockermouth, Lazonby, Silloth, Whitehaven, Wigton, and also at Earl Street Offices and Stores, Carlisle. Specifications may be seen at the architect's office or at the respective police stations.

MISCELLANEOUS.

November 21.—**STORES.** **Newcastle-upon-Tyne.**—The Tyne Improvement Commissioners invite tenders for the supply of the undermentioned stores to their various works, ferries, dredgers, steam tugs, screw hoppers, etc., for six months from January 1, 1919:—(1) Ropes, etc.; (2) nails, spikes, etc.; (3) chains and shackles; (4) wrought iron and steel; (5) rivets, bolts, nuts, etc.; (6) steel castings; (7) iron castings; (8) brass and other cast-

ings; (9) copper, zinc, and lead goods, etc.; (10) ironmongery, tools, wrought iron tubes, and sundries; (11) brooms and brushes; (12) leather goods; (13) india rubber goods and canvas hose; (14) asbestos goods, packings, etc.; (15) varnishes, paints, glass etc.; (16) oils, etc.; (17) waste and oakum; (18) fire-bricks, fireclay, and quarls; (20) timber; (22) incandescent lamps and arc lamp carbons; (23) canvas, bunting, felts, etc.; (24) railway sleepers. Forms of tender for the articles in any of these sections may be obtained on application to J. McDonald Manson, General Manager and Secretary, Tyne Improvement Commission Offices, Bewick Street, Newcastle-upon-Tyne, to whom tenders must be sent.

November 27.—**REPAIRS TO ROADS and ROOFS.** **London.**—The Metropolitan Asylums Board invite separate tenders for:—(1) Repairs to roads at the Park Fever Hospital, Hither Green, S.E.13; (2) repairs to roofs at the Eastern Fever Hospital, The Grove, Homerton, E.9, in accordance with specifications prepared by T. Cooper, M.Inst.C.E., M.I.Mech.E.,

Engineer-in-Chief. Specifications and forms of tender may be inspected at the Office of the Board, Embankment, E.C.4, and specifications and forms of tender can then be obtained upon deposit of £1 in respect of each work. Tenders, addressed as noted on the form, must be delivered at the Office of the Board not later than 2.30 p.m. on above date.

Early Release from the Colours.

The Department now responsible for dealing with questions as to the priority of release from the Colours of officers and men serving with H.M. Forces is the Demobilisation and Resettlement Department of the Ministry of Labour, 6, Whitehall Gardens, S.W.1. Inquiries on the subject should be addressed to the Department, and not to the Admiralty, War Office, Air Ministry, Ministry of National Service, or Ministry of Reconstruction. A limited number of pivotal men will be released in advance of demobilisation.

Publisher's Notices.

**Offices:** ADVERTISEMENT, EDITORIAL, COUNTING HOUSE, AND PUBLISHING—27-29, Tothill St., Westminster. **Telegraphic Address:** "Buildable, Vic., London." **Telephone:** ADVERTISEMENT, EDITORIAL, COUNTING HOUSE, AND PUBLISHING—6936 Victoria (2 lines). **Date of Publication:**—THE ARCHITECTS' AND BUILDERS' JOURNAL is published every Wednesday, price 6d. **The Subscription Rates per annum are as follows:—**

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**Advertisements** for the current week, alterations to serial Advertisements, etc., must reach the office not later than first post on Saturday. **Rates** for serial Advertisements, Special position, etc., sent upon application.

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## COTTAGES ON THE LAND.

"Ex-Army Officer" writes to "The Times":—

"The Prime Minister has already announced that he is fully alive to the vital necessity of the housing problem. It is, of course, too early to expect any details of such a vast scheme. I would, however, venture to suggest that no time should be lost to inform those concerned of the general lines on which the scheme will be run. For instance, those who are anxiously waiting for information would like to know at once: (1) If Army or Government (temporary) buildings will be available at an early date for housing men and women who are so urgently required on the land, but for whom there is no accom-

modation whatever at present? (2) If the Government propose to advance the capital for the erection of cottages? (3) If those who are now so seriously handicapped by want of labour on the land, owing to the dearth of cottages, will have a prior claim; say, on the speculative builder? (4) If the Government do not propose to advance the necessary capital, what are the best means available for obtaining the necessary help and plans for suitable buildings that can be erected at once by the individual at an economic price? Answers to these questions at an early date would be a great boon to thousands of people who want to know."

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Fellows of the Society—the largest number since 1904. The chairman of the council, Mr. Alan A. Campbell Swinton, F.R.S., in an address on "Science and the Future," said that undoubtedly the war had been responsible for an enormous amount of destruction of capital, but when those losses were estimated it was not usually borne in mind that capital did not merely consist of gold and silver, brick and mortar, furniture and fittings, or even of railways, steamships, and machinery but that the main capital of the modern world consisted of scientific knowledge. The reconstruction of the material things now temporarily destroyed would take only a very small fraction of the labour and time expended when man learnt how to bring those things about.

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## HIGHLAND ARCHITECTURE.

The Executive Council of the Highland Association, which met at Stirling recently under the chairmanship of Mr. Malcolm Macleod, of Govan, the president, discussed some interesting questions. The matter of adopting appropriate designs in connection with any future building schemes in the Highlands came up on the report of the Arts and Industries Committee, by whom it had been very carefully considered. Mr. Colin Sinclair, M.A., architect, Glasgow, stated that there was a possibility of houses being erected throughout the Highlands by the Board of Agriculture, and he argued that it was desirable that in design such houses should harmonise with the topography and the architectural traditions of the country. As an example of architecture that was egregiously out of place with its surroundings, he cited the case of Connel Ferry, "where a bit of Pollokshields had been dropped down by the side of Loch Etive," and the Swiss chalet houses at Colintrave. It was rumoured that Lord Leverhulme intended to erect about 200 houses in Lewis, and Mr. Sinclair thought the

Comunn should make representations to his lordship with regard to their style and general features. The meeting decided that a pamphlet on the subject should be printed and issued to all the proprietors and County Councils in the Highlands for their guidance in forming housing schemes.

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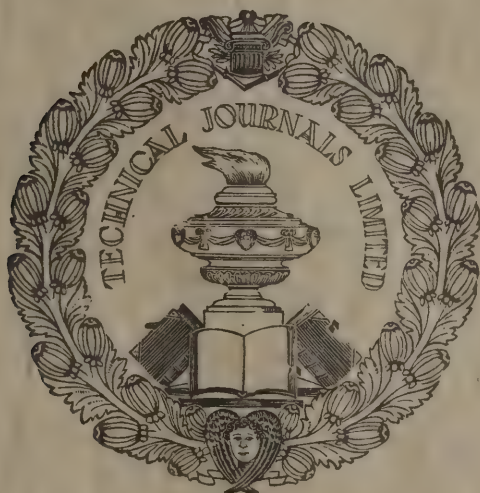
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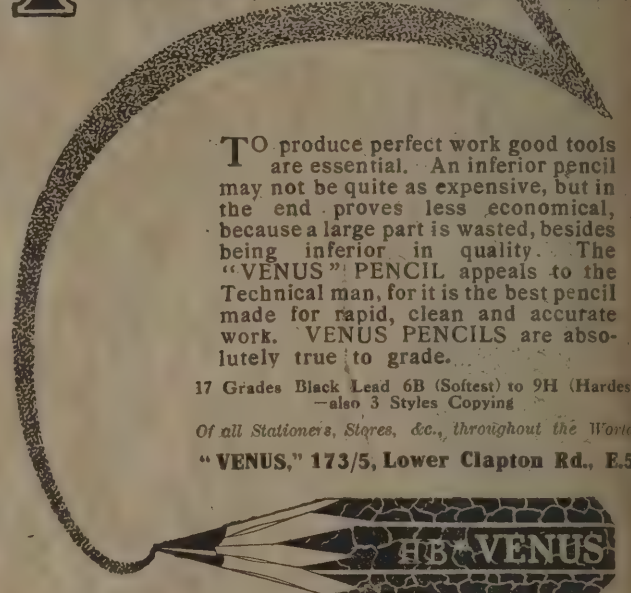
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## ENGINEERING.

December 10. — **PUMPS. Southampton.**—Supplying and fixing two 10 in. centrifugal pumps and motors, together with the necessary suction and delivery pipes, for the Corporation. Particulars may be obtained upon application to the Borough Engineer, J. A. Crowther, Market Chambers, Southampton. Sealed tenders, endorsed "Pumps," must be delivered at the Town Clerk's Office, by 2 p.m. on above date.

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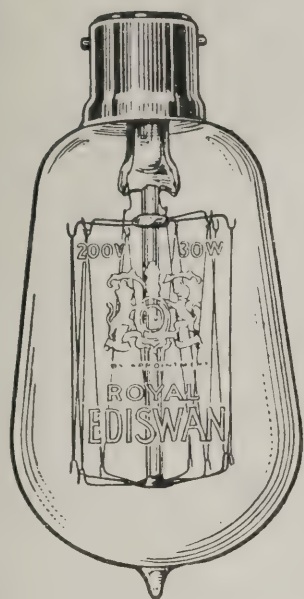
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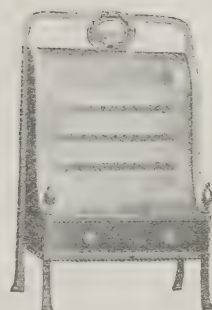
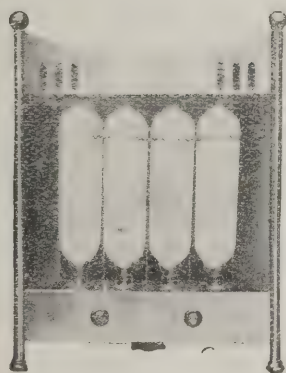
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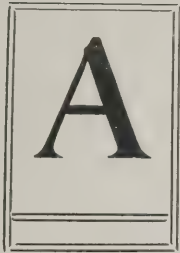
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